The New Urbanism and New Ruralism Frameworks as Potential Tools for Sustainable Rural Development in South Africa

by
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Thesis presented in fulfilment of the requirements for the degree Master of Philosophy (Sustainable Development Planning & Management) in the Faculty of Economic and Management Sciences at the University of Stellenbosch

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March 2012

Declaration

By submitting this dissertation electronically, I declare that the entirety of the work contained therein is my own, original work, that I am the owner of the copyright thereof (unless to the extent explicitly otherwise stated) and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

Abstract

Sustainable rural development is currently one of the priority items for the South African government. Agricultural advancement, high rates of unemployment, widespread poverty, a lack of access to employment opportunities, transport, education and other services, skewed land ownership patterns that are partly due to Apartheid policies, a lack of access to land and numerous social and health-related issues are just some of the problems that rural communities are currently faced with. This study focuses mainly on the spatial planning aspects of rural development and it explores the possibilities of adaptating strategies from the New Urbanism and New Ruralism movements, together with a number of tools typically associated with sustainable rural development, for use in the South African context.

Through the study of available literature on the subject, personal interviews and practical experience, a range of strategies have been investigated and a selected number have been identified that may be applicable to the local context. A number of case studies are assessed, which include a new model being implemented at Crossways Farm Village in the Eastern Cape which combines elements from the above-mentioned approaches. From some of the results achieved to date it seems that the implementation of these particular spatial planning models, combined with models like the biosphere concept that focuses on biodiversity, together with a range of additional socio-economic strategies, may contribute to the promotion of sustainable rural development in South Africa. It is hoped that this study shows the potential and challenges of these spatial planning models as a tool for sustainable rural development, and that it may lead to further study on the subject.

Opsomming

Volhoubare landelike ontwikkeling is tans een van die prioriteitsitems vir die Suid-Afrikaanse regering. Landboukundige vooruitgang, hoë vlakke van werkloosheid, wyd verspreide armoede, 'n tekort aan toegang tot werksgeleenthede, vervoer, onderwys en ander dienste, verwronge patrone van grondbesit wat deels toegeskryf kan word aan Apartheidsbeleide, 'n tekort aan toegang tot grond en talle sosiale- en gesondheidskwessies is net 'n paar van die probleme waarmee landelike gemeenskappe tans gekonfronteer is. Hierdie studie fokus hoofsaaklik op die ruimtelike beplanningsaspekte van landelike ontwikkeling en dit ondersoek die moontlikhede om strategië van die *New Urbanism* en *New Ruralism* bewegings, tesame met 'n aantal werktuie wat tipies met volhoubare landelike ontwikkeling geassosieër word, te gebruik in die Suid-Afrikaanse konteks.

Deur die studie van die beskikbare literatuur oor die onderwerp, persoonlike onderhoude en praktiese ondervinding, word 'n reeks strategië ondersoek en 'n uitgekose aantal word geidentifiseer wat moontlik van toepassing kan wees op die plaaslike konteks. Daar word verwys na 'n aantal gevallestudies, wat ook 'n nuwe model insluit wat tans op *Crossways Farm Village* in die Oos-Kaap geimplementeer word, wat elemente van die bogenoemde benaderings kombineer. Van sommige van die resultate wat tot op hede verkry is, blyk dit dat die implementering van hierdie spesifieke ruimtelike beplanningsmodelle, gekombineer met modelle soos die biosfeer konsep wat fokus op biodiversiteit, tesame met 'n reeks addisionele sosio-ekonomiese strategië, moontlik mag bydra tot die bevordering van volhoubare landelike ontwikkeling in Suid-Afrika. Daar word gehoop dat hierdie studie die potensiaal en die uitdagings wys van hierdie ruimtelike beplanningsmodelle as 'n werktuig vir volhoubare landelike ontwikkeling en dat dit mag lei tot verdere studie oor die onderwerp.

Key words

New Urbanism, Traditional Neighbourhood Development, New Ruralism, Smart Growth, Sustainable Rural Development, Sustainable Agriculture, South Africa, Crossways Farm Village.

Acknowledgements

- God – the best spatial planner.
- Cordia, Teia and Anik for letting me go, for all their lonely nights and all the love & support.
- My fellow Directors Chris, Steff, Eugene & Cordia and all our colleagues (current and previous) at CMAI Architects for allowing me the time to study and for the shared vision of what diligent planning can achieve.
- My Supervisor Anneke Muller for all of her insights.
- Alex Boshoff for the proof reading and Dorie for putting up with it.
- Koot and Marianne Louw for their encouragement.
- De Krans and Boplaas for helping the words to flow.

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List of acronyms and abbreviations

CFV:	Crossways Farm Village
CNU:	The Congress of the New Urbanism
CPTED:	Crime Prevention through Environmental Design
CRDP:	Comprehensive Rural Development Programme
CSA:	Community Supported Agriculture
DWN:	Designing with Nature
NR:	The New Ruralism
NU:	The New Urbanism
TND:	Traditional Neighbourhood Development
TOD:	Transit-Oriented Development
UNESCO:	United Nations Educational, Scientific and Cultural Organization

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Chapter 1: Background and methodology

1.1 Introduction

The focus of this study is predominantly concerned with spatial planning and urban design, as well as the use of specific models and design principles or combinations and adaptations of these to make them suitable for the South African context. The use of these models, and models in general, may have several advantages and disadvantages, and the appropriateness of transplanting foreign models to local soil is open for debate, since models are usually static phenomena that are rooted in a specific place and time. The growth over time, the adaptation and the combination of certain strategies from different models are all important aspects in the use of land-use models.

It may be worth mentioning at this stage that "Land-use planning is a hopelessly complex human endeavour. It involves actions taken by some to affect the use of land controlled by others, following decisions taken by third parties based on values not shared by all concerned, regarding issues no one fully comprehends, in an attempt to guide events and processes that very likely will not unfold in the time, place, and manner anticipated." (Couclelis, 2005, pp. 1355)

According to the Economic Commission for Europe (2008, pp. vii) "Spatial planning is a key instrument for establishing long-term, sustainable frameworks for social, territorial and economic development both within and between countries. Its primary role is to enhance the integration between sectors such as housing, transport, energy and industry, and to improve national and local systems of urban and rural development, also taking into account environmental considerations." The Commission sees spatial planning as a tool to create a more rational territorial organisation of land-uses with effective linkages in order to ensure a balance between the need for development with environmental, social and economic concerns. The importance of spatial planning is its role in providing an environment

that's suitable for investment and development that can lead to social and economic advantages for local communities while preserving the natural resource base. The Commission identifies four key challenges for spatial planning initiatives: Globalisation, the need for sustainable development, market economy reforms and demographic change.

The connection between land-use models and planning has long been an area of interest: Couclelis (2005, pp. 1354) also mentions "…the continuing tensions between modelling and planning, tensions based on the many contrasts between science and policy, social and natural science, domain expertise and integrative thinking, analysis and synthesis, knowledge and action, and – especially – between studying the past and preparing for the future." She argues that the improved access to information and the improvements in digital land-use modelling have strengthened the view that models can improve the effectiveness and credibility of spatial planning: Three distinct roles that models can play in future-oriented planning approaches are the development of different scenarios and comparing them with other planning strategies, the back-casting of desired outcomes to the current environment, and the development of scientific and visually attractive descriptions that can promote strategies preferred by the community.

Numerous land-use models have been developed over time, including a few that deal specifically with rural development or agrarian urbanism like Garden Cities, Frank Lloyd Wright's "Broadacre City", Ludwig Hilbersheimer's "New Regional Pattern" and Andrea Branzi's "Agronica" and "Territory for the New Economy" as mentioned in Waldheim (2010, pp. 2). These "Utopias" are usually based on patterns drawn from the past and some may have missed their true potential because of that and because they were general models not adapted for specific localities. The New Urbanism and New Ruralism are models that will be investigated further in this study, while various models and strategies of sustainable rural development will also be incorporated to investigate their appropriateness to the South African context. This context and the concept of sustainable rural development will be explored in more detail in later chapters.

"Most important is the difference in time orientation: Models are built today on the basis of trends and data gathered from the past, whereas planning needs to act today on the basis of conceptions of what the future might be like." (Couclelis, 2005: pp. 1359)

1.2 Research problem

Some questions asked in order to define the research problem were:

- What is the New Urbanism concept?
- What is the New Ruralism concept?
- What is sustainable development and, more particularly, sustainable rural development?
- What is the context of rural development in South Africa (legislation, policy, distribution, agriculture, employment)? This is applied to the specific case study to narrow the field and also to focus on a specific area with specific local conditions.
- Can the New Urbanism and New Ruralism concepts be adapted to South African conditions and how could this potentially be done?
- Can the New Urbanism and New Ruralism concepts be used in rural areas to promote sustainable development and how could this potentially be done? This is investigated through the relevant case studies.
- Why are the New Urbanism and New Ruralism concepts good tools for sustainable rural development in South Africa if at all?

The key concepts to consider are the New Urbanism, New Ruralism, Traditional Neighbourhood Design (TND), Transit-Oriented Development (TOD) and Sustainable Development. Rural development, sustainable agriculture, rural livelihoods, land ownership and ecological design are all integral parts of these concepts.

The above-mentioned questions can be combined into one: Can the New Urbanism and New Ruralism concepts be adapted to local conditions and used as tools to promote sustainable rural development in South Africa and how can this be done? This would suggest that the problem statement is:

There is a distinct lack of sustainable rural development in South Africa, mainly due to the lack of appropriate spatial planning strategies that address social, economic and environmental sustainability.

1.3 Research objectives

The study would have to answer adequately the above-mentioned research questions, which means that a number of topics needed to be studied:

- The New Urbanism and New Ruralism concepts have to be clearly defined and the important principles and strategies of the movements promoting these concepts have to be explained in detail.
- A large body of literature has to be read and understood in order to extract the appropriate strategies and tools that could potentially be adapted and used in our local context.
- The local context (spatial, social, economic and environmental) associated with rural development has to be established, preferably in relation to a specific case study.
- Through the analysis of case studies, the potential contribution of these concepts to promote sustainable rural development can be assessed.

This would lead to the following objective:

To investigate and synthesise the strategies contained in the New Urbanism and New Ruralism movements and to assess critically whether their application in the South African context can promote sustainable rural development.

1.4 Importance of the research

This research could prove to be important to a large number of role players, from farm workers, farmers, land owners, potential land owners, developers, planners, government officials and academics. If the Crossways Farm Village case study proves to be effective in promoting sustainable rural development, it could have wide implications for a large number of people and this study could be a way of making that knowledge available for further study or for use in practice.

The case study is only in its initial construction phases at present, but the initial projections and feasibilities could be used as a model for further development. Unfortunately with all projects of this nature, the true effect will only be known in a few years' time, but it is clear that there is currently a lack of appropriate spatial planning strategies that can be feasibly packaged for a wide range of role players in order to promote sustainable rural development.

The lack of resources, food security, transport, the lack of rural employment opportunities and investment and a lack of integrated rural settlements are all very relevant problems and some of the strategies and principles of the New Urbanism and New Ruralism concepts may be a first step to addressing some of these.

1.5 Limitations and assumptions of the study

The study is limited to research related to the strategies promoted by the New Urbanism and New Ruralism movements and how these have been applied to certain case studies. An assessment is also made to determine whether these strategies could be implemented successfully to promote sustainable rural development in South Africa.

The proposed case study to be evaluated is a local development project by the company CMAI Architects. It is called Crossways Farm Village and it is a large mixed-use agricultural development in the Eastern Cape close to the Van Stadens River

bridge. It incorporates an existing dairy farm, a commercial node, a primary school, an area earmarked for agri-industries and several residential areas for various income groups.

As mentioned previously, the project is currently in its initial stages and has not been built out yet, so the analyses and findings of the case study are limited to principles and projections and will not include operational data. It is not assumed that the New Urbanism and New Ruralism movements are the gospel of spatial planning strategies, but it is believed that they contain certain specific tools and principles that can be adapted to local South African conditions.

Another potential limitation could be personal subjectivity: Since I was a Director at CMAI Architects and have been involved in certain aspects of the design of Crossways Farm Village, the design of other case studies like Thesen Islands and in the promotion of the New Urbanism and New Ruralism movements, a conscious effort had to be made to retain an appropriate level of objectivity while conducting the research. However, Flyvbjerg (2006, pp. 236) sees direct involvement in such cases as an advantage: "If one assumes that research, like other learning processes, can be described by the phenomenology for human learning, it then becomes clear that the most advanced form of understanding is achieved when researchers place themselves within the context being studied. Only in this way can researchers understand the viewpoints and the behaviour, which characterises social actors."

1.6 Ethical implications

There are a number of ethical factors that had to be considered during the proposed study. The first of these are the people involved in the case study: The study and findings may create certain expectations with farmers, farm labourers, land owners, developers, planners and government officials. These findings will be closely related to a specific context and a realistic assessment will not be possible until the relevant developments have been completed and have been in operation for some time.

The primary consultants, developers and owners of the developments covered in the case studies have been made aware of the study and its contents to ensure that there is no information used in the thesis that may be of a confidential nature. Fortunately a lot of the information has already been made available to the public in open days, newsletters, newspaper articles, over the internet and in various advertisements. Should the study generate any publicity, any advantages should be fair in proportion to the contributions by the relevant companies (including colleagues, co-workers and employees). All sources of support should be acknowledged.

The study is of such a nature that information was gathered from people, but none of the information is anticipated to be of a sensitive nature. These peoples' right to privacy and confidentiality of personal information is respected and their approval has been obtained for the use of information gathered during interviews or personal discussions. Since the research study involves the study of the physical and biological environment, any irresponsible intervention has been avoided and care was taken to make the audience aware of any negative effects that the proposal may have on the environment.

The information should be made available to the public in a responsible way and established scientific norms and standards were used during the compilation of the thesis document. The study was approached in a professional and honest manner and all sources used have been acknowledged (text, images, maps, plans and bibliographical sources). As far as personal responsibility is concerned, I do not anticipate obtaining any improper advantage from the research and have strived to act in an ethically justifiable manner as stipulated in the University's guidelines.

1.7 Rationale of the research

The core research idea is to explore the theoretical background of the New Urbanism and New Ruralism movements developed in the United States and how these can be adapted to suit local conditions in order to promote sustainable rural development

in South Africa. There are a number of case studies that will be investigated to support the theoretical base; these focus primarily on spatial planning, the creation of sustainable livelihoods and the promotion of sustainable agriculture.

This research could prove to be important in the South African context since there currently seems to be a lack of potential solutions to sustainable rural development. There is also a gap in local literature related to the New Urbanism and New Ruralism concepts, both of which could be adapted to our local context and could potentially be used as spatial planning tools to promote sustainable development. There are a few examples where principles of the New Urbanism framework have been used in an urban context locally, but as far as can be seen, this has not been used in a rural South African context yet, nor has the New Ruralism framework been applied locally, except in a few project proposals that have been developed and submitted to the authorities by CMAI Architects.

My source of interest in the subject stems from a number of readings studied over the past few years relating to the New Urbanism and I've worked on a number of projects where some principles of this movement have been adapted successfully to local conditions. While the New Urbanism framework is by no means seen as the "be-all and end-all" of spatial planning, it does offer some very useful strategies and approaches to certain spatial problems in South Africa. The New Ruralism framework is a fairly new offshoot of the New Urbanism framework and while CMAI Architects has begun to implement some of its strategies, they have not completed any projects where these have been used. I would like to synthesise and interpret a wider range of literature on these subjects and then critically analyse some of the projects where the principles of New Urbanism and New Ruralism movements have been applied.

There is currently no synthesis of the strategies and principles of the New Urbanism and New Ruralism movements for use in the local South African context and the relevant case studies may point the way for further research and development to

assist in the quest of finding answers to the problem of sustainable rural development in South Africa.

1.8 Research approach and strategy

The research approach consisted of a comprehensive literature review in order to synthesise the large body of readings available on the concepts of New Urbanism and New Ruralism. The initial investigation of these concepts also involved interviews with some of my former colleagues who have attended a variety of New Urbanism workshops and congresses in the United States.

The relevant local case study was investigated by reading through its respective reports, studying the development proposals and submissions and personal interviews. The records of the open days, public comments, comments by interested and affected parties and feedback from farm workers were studied to determine their general opinion of the potential projects. Numerous site visits were also made to re-evaluate the physical context.

This means the first part of the study is of a non-empirical nature where certain concepts and philosophies are analysed in the form of a literature review. It is mainly conceptual research where the strengths and weaknesses of the New Urbanism and New Ruralism frameworks are evaluated to determine the appropriate strategies for our given context. The large body of existing literature is used as a source of reference for previous case studies and as a source for the body of research pertaining to this study. Important considerations were to include the key theories and to ensure that the body of knowledge is current. The strengths and weaknesses of previous research contained in the literature were evaluated and assessed as far as possible.

The second part of the study is of a more empirical nature where the case study is analysed. Research of an empirical nature is based on data gathered through observation and experience or through fieldwork, so this section includes contact

with the relevant role players, and analyses of the successes and potential shortcomings of the development. Since the case study is still in its infancy, this part of the study may also be deemed to be non-empirical since the outcomes are also projections based on the results achieved in other developments. However, the availability of information made it possible to evaluate it critically through interviews, personal discussions, workshops, direct observation, aerial photos, plans, maps, surveys, open day panels, the available Environmental Impact Assessments (EIAs) and various other documents.

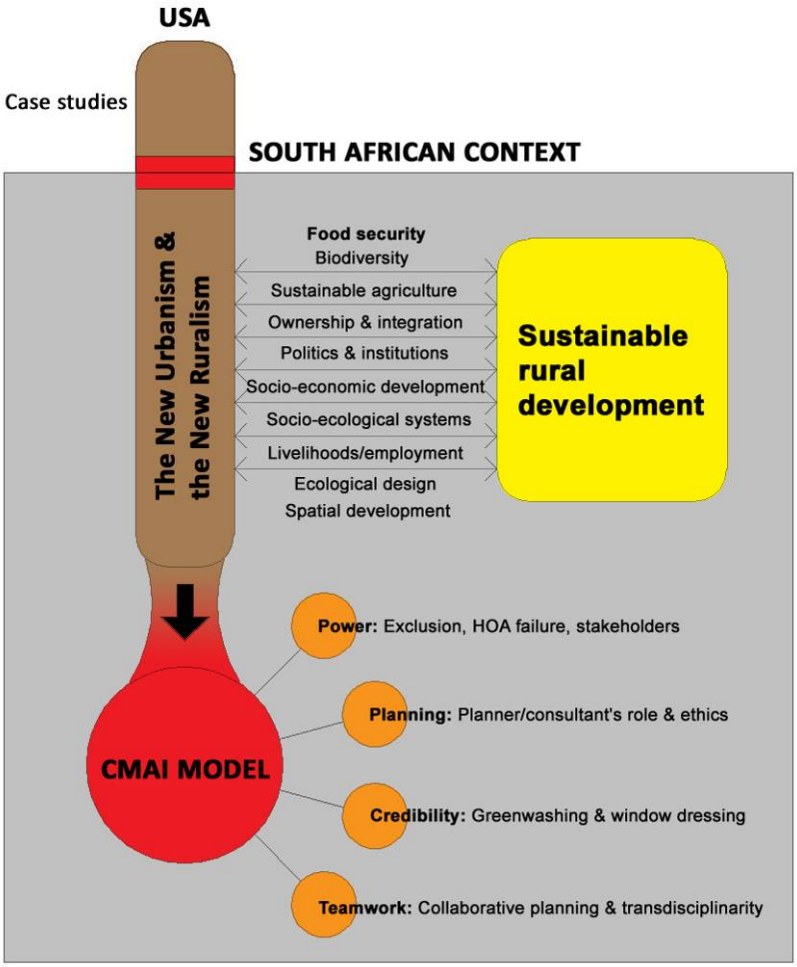


Figure 1: Map of the study. (Author, 2011)

For the empirical portion of the study a combination of a quantitative and qualitative approach is used, although the qualitative approach dominates. Qualitative research is more concerned with the study of social and cultural aspects, especially through

the research of case studies, and this forms the bulk of the second part of the thesis. The interviews, conversations, personal observations, available documentation and my own impressions all fall under the qualitative umbrella. Quantitative research is usually based on scientific data and numbers, of which there is only a small proportion available as part of the case study documentation. This takes the form of feasibilities, socio-economic projections and agricultural projections of either the case studies or actual data gathered from previous developments that have been in operation for some time. This data has mostly been retrieved from the CMAI archive.

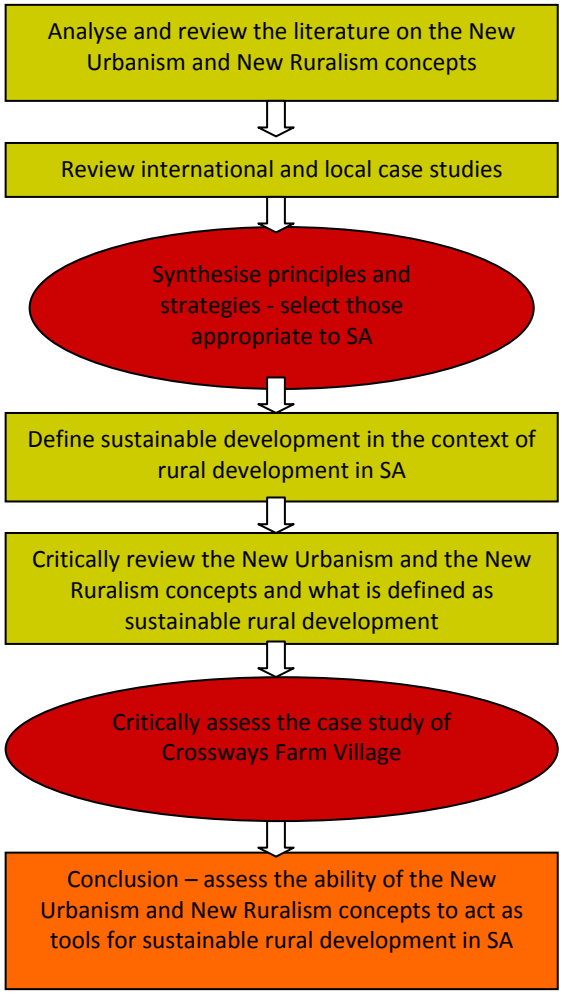


Figure 2: The process of the study. (Author, 2010)

The research methodology can also be described as a combination of deductive and inductive research: Since deductive research is research based on the development of a theory followed by the testing of that theory through the analysis of particular

case studies, this study can be seen as being mainly deductive. However, since the chosen case study and previous case studies that are touched on in the text (ie. the Thesen Islands development) were used as models from which certain aspects of theory have been developed, there is also a flow in the opposite direction, which means that there is a certain measure of inductive research too, which is predominantly based on personal experience in these case studies and from data retrieved from the CMAI archive.

As mentioned in the section dealing with limitations of the study, subjectivity may have an influence on the research outcome, although a conscious effort was made to remain objective while analysing the case studies. Despite this, personal impressions and the interpretation of data or the interpretation of a certain context are acceptable under the qualitative research approach.

1.9 Literature analysis

The fields of literature that were considered range from Sustainable Development readings, Development Planning Theory and Practice (including a large body of literature on the New Urbanism concepts, the New Ruralism concepts and Sustainable planning strategies), Sustainable Cities, Sustainable Rural Development, Sustainable Agriculture and some background reading on Development Planning Law and Policy.

Other sources were the large body of information assimilated and produced by CMAI Architects during the design and development of several rural development models for South Africa over the past ten years. Some of these are used as case studies to explore the possibilities that planning can offer for sustainable rural development in South Africa.

There is a fairly large available body of international literature on the New Urbanism movement and a slightly more limited body on the New Ruralism movements – the fact that these readings contain certain strategies that may be used locally meant

that they had to be critically assessed and interpreted so that the potentially appropriate solutions could be extracted for adaptation to the local context. This was in order to create a compressed localised body of literature on the subject, which could be used to evaluate the chosen case studies.

The preliminary literature analysis helped to demarcate, focus and develop the initial research idea since the availability of material and the general line of argument largely dictated the focus of the study. The North American literature in particular deals with many problems that are inherent in South Africa too (mainly because of the previous unquestioning adoption of American planning and transport models, so a continuation of this trend should be avoided despite looking at American solutions to American problems!); issues such as urban sprawl, strip malls, freeways and two-dimensional zoning are common to South Africa and the United States in particular. The general issues and proposed solutions should be critically evaluated and adapted to South African conditions.

An internet search was carried out in 2010 to ensure that the proposed thesis is not a duplication of previous research. This search included a detailed search on the website of the National Inquiry Services Centre (NISC), previously known as NiPAD: New Urbanism showed no results, New Ruralism showed no results and Sustainable Rural Development showed eleven results, although they do not deal with the creation of rural development nodes. The results were mainly concerned with sustainable development projects in the fields of forestry and other initiatives. A further search for rural development in South Africa also yielded a number of results, but none that were close to the proposed field of study.

An additional search on the NEXUS database also yielded very little results: The New Urbanism showed only one study that was titled “The Ideological Construction of New Urbanism – Melrose Arch, A Critical Analysis.” The New Ruralism showed no results, while sustainable rural development and rural development in South Africa again showed a number of results. These were mainly related to service delivery, irrigation schemes and tourism, so no studies that are closely connected to the

proposed field of research were found. While there is generally a wide range of literature on rural development in South Africa and on sustainable development in South Africa, the research on, and use of the New Urbanism and New Ruralism has been fairly limited. There also seems to be a lack of answers to the questions of spatial planning linked to the creation of rural livelihoods and despite the government's aims for rural development, the existing legislation makes it difficult to achieve.

One can therefore conclude that this proposed research study should fill a gap in the local literature on sustainable development and could provide an alternative direction for further study, research or development.

1.10 Case study research

While several case studies are examined during the exploration of the New Urbanism and the New Ruralism frameworks, only a single case study (Crossways Farm Village) is used to test the hypothesis and to provide a potential starting point for further development. Eisenhardt (1989, pp. 534) describes a case study as a research tool that focuses on exploring the dynamics present within a single context. Flyvbjerg (2006, pp. 220) defines a case study as the detailed exploration of a single type, but disagrees with the traditional view that a single case study can't provide reliable information about a wider range of applications. Donald Campbell's original view that case studies as a methodology are pointless (as cited in Flyvbjerg, 2006, pp. 220) may also be mentioned here (although Campbell later changed this view) and dismissed.

Flyvbjerg continues by providing five general misunderstandings about case study research: 1. That general theoretical knowledge is worth more than practical knowledge, 2. That one can't build generally applicable theories from one case and therefore one case can't contribute to scientific development, 3. That case studies can only generate hypotheses as a first stage in a longer research process, while other research methods are more applicable to the testing of hypotheses, 4. That

case studies are often interpreted by the researcher in such a way as to confirm his or her preconceived viewpoint and 5. That it is usually difficult to generate widely applicable theories from one case study. Since the Crossways Farm Village case study will be used to test a hypothesis in order to offer a generally applicable theory it will be useful to briefly examine Flyvbjerg's alternative view about the above five misunderstandings. During case selection, different case types may be investigated, but the the most favourable type in this case would be what Flyvbjerg calls a Critical case. This is a type that permits the testing of a theory on a local application and a good way of choosing a Critical case is to look for something that is most likely able to prove the hypothesis (ie. that the New Urbanism and New Ruralism frameworks may be suitable for South African conditions) – Crossways Farm Village would seem to be the most likely (if not the only) example of sustainable rural development based on New Urbanism and New Ruralism in South Africa at present. Yin (2009, pp. 59) agrees with the use of case study research by describing a case study as a research tool that can provide a detailed investigation of something new, not-understood or unexamined, which seems to be the case in South Africa as far as the New Urbanism and New Ruralism frameworks are concerned.

Case study research is described as a tool to create context-dependent knowledge and it is stated that only by experience in case studies can a beginner become an expert. According to Flyvbjerg (2006, pp. 222), real-life practical experience is necessary to attain a more realistic view away from the rigid rules of pure theory and case studies are said to generate the best theory. Flyvbjerg further argues that one can generalise on the basis of the findings of a single case study and that it can be used with or in lieu of other research methods; the power of practical examples should not be underestimated. Researchers tend to look for verification of their findings whether case studies are used or not, but it would seem that case studies make it more difficult than theoretical research to interpret findings in the affirmative.

Eisenhardt (1989, pp. 534) generally agrees with Flyvbjerg's views that a case study can be used to test and generate theories. Qualitative and quantitative research should be combined and anecdotal data should not be underestimated since this "soft data" can sometimes be used to substantiate the "hard" data. Levy (2008, pp. 2) supports Flyvbjerg and Eisenhardt by saying "The common view that good case study research lacks method is unwarranted." He also confirms that good case studies can test certain hypotheses and that case study research combined with quantitative and formal methods can be advantageous.

"Today, when students and colleagues present me with the conventional wisdom about case-study research – for instance, that one cannot generalise on the basis of a single case or that case studies are arbitrary and subjective – I know what to answer. By and large, the conventional wisdom is wrong or misleading. For the reasons given above, the case study is a necessary and sufficient method for certain important research tasks in the social sciences, and it is a method that holds up well when compared to other methods in the gamut of social science research methodology." (Flyvbjerg, 2006, pp. 241)

1.11 Conclusion

There seems to be a distinct lack of research on the New Urbanism and New Ruralism frameworks in South Africa, especially in light of the shortcomings related to spatial planning that many areas in the country are experiencing. Many sources support the use of case studies to test and support theoretical research, so the combination of both case studies and theoretical research is used to address the research problem and objectives of this particular study.

While there may be problems associated with the use of spatial planning models (and particularly transplanted models); the hard and soft data of a number of case studies can be evaluated in the light of the literary background to establish the potential benefits and problems associated with the strategies that are deemed suitable to the local South African context.

Chapter 2: The New Urbanism

2.1 Definition

Duany Plater-Zyberk and Company (2002, pp. A5) defines Urbanism as "The body of knowledge dedicated to the habitat of humanity. New Urbanist usage implies opposition to suburban (sub-urban), a lesser or permanently incomplete version of urbanism." The New Urbanism is essentially a spatial planning strategy that aims to recreate the neighbourhoods and communities found in older settlements before the advent of sprawl, highways and single-use suburbs. Fainstein (2005, pp. 10) compares it to Ebenezer Howard's Garden City movement that also aimed to create close-knit communities through the use of specific spatial planning techniques, although she contends that it doesn't display much theoretical rigour. She is also concerned that it perpetuates the modernist idea that spatial order can result in social order and the idea that spatial aspects are more important than the related social processes.

Steuteville (2000, pp. ix) describes it as follows: "The New Urbanism, also called traditional neighbourhood development, liveable communities, transit-oriented development, and smart growth, is a method of building human-scale neighbourhoods in place of single-use subdivisions, shopping centres and office parks." Katz (1994, pp. xxv) says that "In one sense, it represents a rediscovery of planning and architectural traditions that have shaped some of the most liveable, memorable communities in America – urban precincts like Boston's Back Bay and downtown Charleston, South Carolina; neighbourhoods like Seattle's Capitol Hill and Philadelphia's Germantown; and traditional small towns where life centres around a courthouse square, common, plaza, train station or main street. For planners and architects who embrace the New Urbanism, places like these provide both inspiration and countless practical lessons for the design of new communities."

There are, naturally, numerous critics of the New Urbanism and Loomis (1999, pp. 4) mentions the reaction to a question by the well-known Architect and theorist Rem

Koolhaas directed at Andres Duany asking him why he is not interested in contemporary urban placemaking before comparing the New Urbanism to the new Volkswagen Beetle: "…a cutesy consumer product translated from a vehicle intended for the mass introduction of automobility." Gordon (1998, pp. 2) goes one step further when he asks: "What is wrong with this approach? Most of all, it embraces pie-in-the-sky social engineering based on a false diagnosis of society's urban problems, an excessive faith in the ability to change the world, and the prescription of policies that are implementable only under very special circumstances."

2.2 History (Urbanisation, sprawl, transport)

Traditionally people lived together in denser communities for security or to be close to important resources like water or food, but in recent times, transit points like railway stations or ports have been added to this list together with employment opportunities. The car (amongst other factors) caused many of these denser communities to disperse and suburbia became the new way of living for many people – this naturally led to the fragmentation of communities on various levels.

Sprawl went hand-in-hand with numerous problems in addition to the destruction or deterioration of once integrated neighbourhoods: Single-use zoning laws, regulations that enforce property sizes and setbacks, the increased distance between home and the workplace, which also led to many people not having the opportunity to work, the increased cost of transport infrastructure (which means less money being available for other civic projects), increased pollution due to increased travelling (which is usually in cars occupied by just one person at a time), increased time spent on the road, which also leads to more stress and reduced productivity, higher crime rates and environmental degradation. Standard traffic engineering requirements that regulate oversized road widths for contingencies (ie. multiple fire & rescue contingencies that may only occur once every ten years), national housing projects that do not employ any form of proper community planning, the total lack of contextuality where zoning laws are applied irrespective of context and the isolation of professional disciplines results in further deterioration. Added to this are the

problems that are inherent to South African planning, where formerly (and in most cases presently) disadvantaged communities were purposefully positioned far away from employment and educational opportunities.

Figure 3: Henderson in Las Vegas, Nevada: A typical example of monotonous sprawl and single-use zoning without any clear indication of public space (Arthus-Bertrand, 2011)

Alex Krieger (1998, pp. 73) sums it up by stating: “Environmental degradation, wasteful consumption of resources, automobile dependency, economic and racial segregation, social alienation, redundancy, obsolescence, abandonment, homogeneity, and ugliness have been cited since the earliest consciousness of sprawl.” Peter Calthorpe, who is one of the better-known promoters of the New Urbanism movement, supports these sentiments by mentioning that “Settlement patterns are the physical foundation of our society and, like our society, they are becoming more and more fractured. Development patterns and local zoning laws segregate age groups, income groups, ethnic groups and family types. They isolate people and activities in an inefficient network of congestion and pollution, rather than joining them in diverse and human-scaled communities. Our faith in

government and the fundamental sense of commonality at the centre of any vital democracy is seeping away in suburbs designed more for cars than people, more for market segments than real communities. Special interest groups now replace the larger community within our political landscape, just as gated subdivisions have replaced neighbourhoods." (Katz, 1994, pp. xii) suggests that, in many cases, local zoning laws make it illegal to build according to the principles of a traditional town or neighbourhood – the types of towns or neighbourhoods that people treasured and that have been built for hundreds of years prior to the zoning laws implemented after World War II.

Katz (1994, pp. ix) goes further to state that "Despite the increasing sophistication of our physical and electronic networks (highways, telephones, television, etc.) we remain today a fragmented society. Networks, alas, are no substitute for true community." This statement was made before the massive spread of the internet, cellphones and social networks like Facebook or Twitter and people seem to be moving from one tool to the next looking for a sense of community, which is increasingly difficult to find. This raises the question whether it is truly possible to find it on an impersonal level in cyberspace or whether it is only truly possible to achieve it in the physical sense where people interact on a face-to-face basis in an actual community. The challenge is how to facilitate this return to community and whether spatial planning can play a role in this process.

The New Urbanism movement grew exponentially during the 1990s, from a handful of completed projects to over 250 in the United States alone. The most well-known New Urbanist communities in the US are Seaside in Florida (made famous in the film 'The Truman Show'), as well as Celebration and Kentlands. Loomis (1999, pp. 1) calls Seaside New Urbanism's greatest success and its most damning stereotype and feels that 'The Truman Show' only heightened this perception. New Urbanism has gained much popularity and it has also spread to other countries like Australia (where it is referred to as Liveable Neighbourhoods), Canada, England, Turkey, Indonesia and South Africa, which is probably why Loomis (1999, pp.4) calls it "the only game in town" since he feels that there are currently no alternative design strategies of any

merit. This is debatable and it may be a case of not being “the only game in town”, but merely the game making the most noise at present.

2.3 Principles

Where the New Urbanism is applied on the neighbourhood scale, it is referred to as Traditional Neighbourhood Development (TND). A TND is different to standard urban or suburban development since it is based on mixed zoning where different uses are found in the same area, together with different housing types. Streets are usually narrower and interlinked to allow a range of movement choices to reduce potential blockages – cul de sacs are rarely used and main streets are developed as shopping precincts in lieu of shopping malls. Traditional neighbourhood development (TND) and Transit Oriented Development (TOD) are defined as “A comprehensive planning system with the mixed-use neighbourhood as its basic element and the single-use district as an exception.” (Duany Plater-Zyberk & Company, 2002, pp. B1)

Different daily activities should be available within walking distance, which is beneficial to all residents, especially young people and the elderly. Through the provision of different housing types, a wider variety of income groups, ages and ethnicities can be accommodated in the same area, which some argue strengthens the community. By making the streets more pedestrian friendly (both by designing the streets themselves, but also by

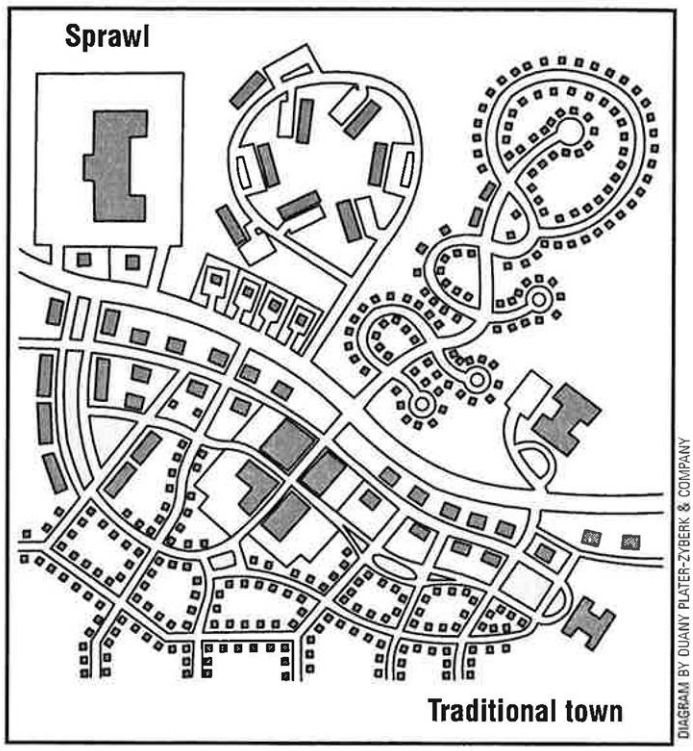


Figure 4: Comparing a traditional town layout to land patterns typically associated with sprawl. (Steuteville, 2000, pp. 9-3)

defining the streets adequately with buildings) could assist in making them into part of the public realm, which may improve interaction and safety. This is naturally highly context-specific and by designing streets based on the abovementioned principles does not necessarily mean people will actually use them accordingly. New Urbanists argue that vehicles should still be accommodated within communities, but that the pedestrian should always take precedence – vehicles should only take precedence on freeways and arterials. Jabareen (2006, pp. 40) is somewhat sceptical about the ability of New Urbanism to reduce dependence on the car by making streets more pedestrian-friendly and he mentions the opinion that the reduction of vehicle transportation is sometimes treated as fact rather than hypothesis. Some studies show a definite decrease in vehicular use by allowing for mixed uses, higher densities and pedestrian-friendly streets, while others argue that these studies are hard to interpret or to confirm. The increased dependence on the car has made it increasingly difficult to treat streets as public spaces, partly because they are physically dominated by vehicles, but also because the built form has become so focused on the car. Increased dependence on the car usually means that most families who can afford it end up having more than one car: This increase in the number of cars makes it necessary to have more storage space for them so garages become bigger and they end up being positioned on the street, which means that the street edges are also now defined by garages, while the houses are increasingly set back and disconnected from the street.

A key concept is the idea of creating neighbourhoods and communities and it is explained by Elizabeth Moule, an Architect and one of the founders of the Congress of the New Urbanism (CNU), as follows: “A good example of this approach is that instead of putting two houses next to each other, (new urbanists) would place them across the street from one another. The street is defined, the landscape is designed along with sidewalks to establish a physical space to occupy as a pedestrian and, lo and behold, you have created a part of a neighbourhood.” (Steuteville, 2000, pp. 2-3) This strategy encourages people to use the street as a public realm, not just as a vehicular commuting artery, which naturally results in safer streets. According to Duany Plater-Zyberk and Company (2002, pp. M4.3), this strategy relates to Crime

Prevention through Environmental Design (CPTED) which aims to reduce crime by applying behavioral and social science. The key principles of CPTED are the monitoring of streets through the adequate provision of street-fronting windows, the clear separation of public and private open space, the demarcation of private space through walls or fences, adequate lighting, clear sight lines and the minimisation of dense low-lying vegetation. Jabareen (2006, pp. 41) agrees that proper urban design can increase security, especially where different uses are accommodated in the same area.

Marcuse (2000, pp. 5) and Harvey (1997, pp. 2) both question the validity of the theory that spatial order can lead to moral and aesthetic order; statements such as Moule's mentioned above, indicate how some New Urbanists accept this as fact. It is also rather optimistic to imply that part of a neighbourhood can be created by placing two houses on either side of a street (while placing two next to each other might be less adequate), but it is a well-established notion that many New Urbanists hold that the most basic form of spatial planning will naturally lead to a predetermined social outcome.

Quite an emphatic critic of the New Urbanism is Alex Krieger who challenged some of the leading proponents of the New Urbanism by stating: "The New Urbanism movement is impressive, powerful, growing, and great, but perhaps not as great as you, its founders, claim it to be.

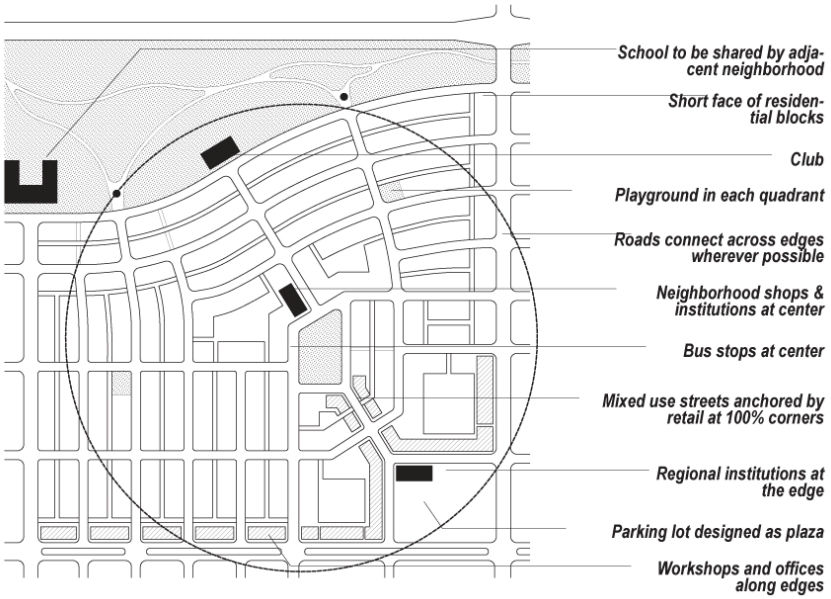


Figure 5: A typical TND neighbourhood unit. (Duany Plater-Zyberk & Company, 2002, pp. C1)

Lighten up. Enough self-congratulatory testimonials. You are practically the establishment now. One of the few things still missing is some humility, or barring that, a bit less hyperbole, and barring that, at least a sense of humour." He also feels that many of its basic principles are strategies that other movements also advocate, although the New Urbanists claim them for themselves: "Among your notable achievements is crafting a text that contains what most [in] the planning community believe and making those beliefs appear proprietary to the movement. That is impressive!" (Krieger, 1998, pp. 73) Loomis (1999, pp. 1) shares the view that the singular theory of New Urbanism has co-opted the language of urbanism and that it is claiming common urban terminology for itself.

Compared to conventional suburban development, Andres Duany and Elizabeth Plater-Zyberk describe New Urbanist planning in thirteen points (Steuteville, 2000, pp. 9-3):

- A New Urbanist neighbourhood has a discernible centre, which could be a park, a green, a well-known corner etc. This is usually used in conjunction with a discernible edge and they argue that a combination of these two elements can provide a strong sense of community within a specific neighbourhood.
- Most residential units are within a 5 minute walk of the centre.
- The provision of a variety of housing types, from single residential dwellings to row houses and apartments provides the possibility of catering for a range of age and income groups.
- Positioning shops and offices at the edge of the residential area to cater for the weekly needs of residents.
- The allowance of a small secondary building that can be used as a small rental unit or a home office on each property.
- Placing a primary school within walking distance of the residential properties.
- Providing small parks or playgrounds close to all houses.
- The dispersion of traffic via a network of streets that can cater for pedestrians and cars.

- The provision of narrow, shaded streets that can calm traffic speeds.
- The placement of buildings in the core close to the street.
- The placement of parking areas and garages in the rear of properties.
- Prominent sites (ie. at the visual termination of streets) are designated for civic buildings.
- Neighbourhoods are planned to be self-governing.

Something not mentioned in this list, but which is one of the more important strategies of the New Urbanism, is the use of traditional shopping streets or 'high streets' instead of shopping malls. This fits into the practice of making the street part of the public realm again where the car is relegated to the back of the buildings.

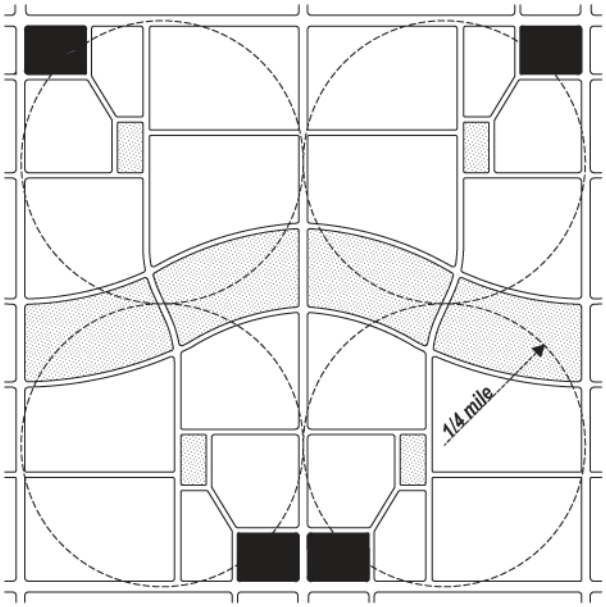


Figure 6: The TND pattern. Note ¼ mile = 402.336 metres.
(Duany Plater-Zyberk & Company, 2002, pp. C2)

Duany and Plater-Zyberk view the basic organisational elements of New Urbanism as the neighbourhood, the district and the corridor (Katz, 1994, pp. xvi). The neighbourhood is a mixed-use urbanised area, a district is a single-use area and corridors are the elements that connect or separate these two. These elements also form the basic building blocks of what is referred to as Transit-Oriented Development.

A Transit-oriented development (TOD) is typically a TND that is established around a mass transit station. This can either take the form of a neighbourhood TOD which is centred on a feeder bus line or an urban TOD which is located on a main transit line. Challenges inherent in both types are difficulties in coordinating with transit agencies that have their own agendas and convincing banks or lending agencies about their merits. Strangely enough, something that banks and lending agencies are struggling to deal with is the mixed-use aspect of most TODs, since they usually specialise in single-use financing. The irony in this is that potential apartment buyers buy into a lifestyle, so by merely placing apartments close to transit isn't enough – the necessary amenities also have to be provided. A potential negative of TOD developments is that the amount of parking required around transit stops together with transit routes may result in negative pedestrian spaces and the separation of certain neighbourhood sections. However, if authorities can be convinced to allow shared parking, this problem may be mitigated to some extent, since the overall required parking requirement can be reduced.

Calthorpe Associates supports Duany and Plater-Zyberk's New Urbanist principles by describing the main principles of TOD as follows (Steuteville, 2000, pp. 3-6):

- Providing an adequate density of housing and employment close to the transit point. This typically equates to 17 residential units per hectare in suburban areas and 20 to 30 units in urban areas.
- The spatial extent of a TOD should typically be a 5 minute walking distance to the transit stop, which is a radius of about 400 metres.
- A TOD has to have a mix of uses, from residential to civic uses, as well as retail and services.
- Pedestrian-oriented planning with comfortable walkways, public outside spaces and buildings fronting onto these to increase safety.
- A network of streets to maximise choice of movement. Neighbourhood streets should be narrow to calm traffic effectively.
- The transit point and core of the development should be roughly at the centre without creating pedestrian blocks (ie. with railway tracks or

highways). If that could potentially happen the core should rather be on the edge of the development.

- The minimum size of a TOD should typically be 12-24 hectares, but it could go up to approximately 50 hectares.
- The area outside the standard TOD can accommodate less intense uses, like low-density residential, light industrial, offices or parks up to about 1.5 kilometres from the centre.

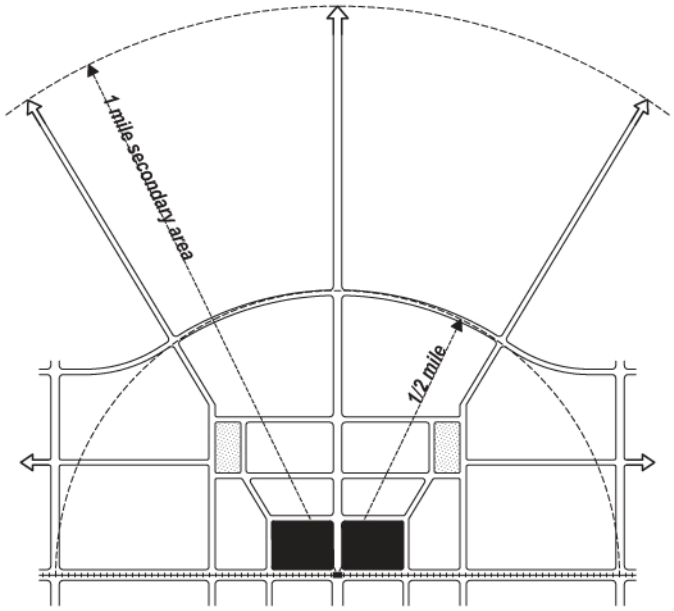


Figure 7: The TOD pattern. Note 1 mile = 1609.344 metres and ½ mile = 804.672 metres. (Duany Plater-Zyberk & Company, 2002, pp. C2)

Calthorpe (in Steuteville, 2000, pp. 3-10) suggests that public agencies should educate the public, banks, retailers and employers about TODs via workshops, tours and websites. Typically, the authorities will also have to be educated, since existing development controls and local laws may not cater for TOD-based projects. Local laws are typically the primary obstacle to any new urbanist development, since existing zoning laws mostly cater for single-use zoning, whereas New Urbanism promotes mixed-use zoning. Typically, New Urbanist planning schemes are used as overlays in conjunction with existing zoning schemes and certain concessions are regularly made overseas (like reduced rates and taxes) since mixed-use development creates less strain on Municipal infrastructure.

The urban core is one of the most important aspects of a TOD, and in fact any New Urbanist development, since it's usually based on traditional commercial districts where buildings create walls or well-defined edges with large shop windows to the shopping area or shopping street, usually with specific architecture, signage and street furniture. Buildings are typically placed on the street property boundary, with shared parking to the rear and on-street customer parking, while loading areas and refuse are positioned to the rear of the buildings, and larger lots with set-back buildings have low walls on the street boundary in order to define the edge. Side yard parking is highly discouraged, while paved walkways from the street to the rear yard parking areas are highly recommended. The massing and composition of buildings is equally important since shops were traditionally smaller than today's retail outlets, so façades are broken up to provide a more human scale. The urban core is mostly designed with a fine-grained, interconnected street network with mixed-use buildings, including residential portions. This is supposed to assist in prolonging the active life of the area, making it more vibrant, more viable and less car-dependent. A potential downside of the commercial cores of Traditional Neighbourhood Developments is that they sometimes only sustain neighbourhood-level retail outlets, but these can always grow and expand over time.

Designing with nature (DWN) is a methodology regularly used in conjunction with the New Urbanism; it was initially described in a book by Ian McHarg in 1963 and it's basically an in-depth site analysis whereby key site determinants or traces on the land are catalogued or mapped and used as planning guides. Environmentally sensitive areas, steep slopes, heritage areas (or areas of natural beauty) and traces on the land are identified as no-go zones and the remaining areas on site are then deemed developable. A potential downside to this methodology is that it doesn't provide guidelines for the development of the remaining "developable" area, but if it's used in conjunction with New Urbanist principles it may form a symbiotic relationship. "Architecture and landscape design should grow from the climate, topography, history and building practices of the region." (Duany Plater-Zyberk & Company, 2002, pp. A3)

Another concept that is regularly used in conjunction with the New Urbanism is that of 'regionalism'. It is defined by Duany Plater-Zyberk and Company (2002, pp. M4.6) as "The thesis that the design of artifacts should be informed by the ethos of a region. Regionalism has a salutary effect on the urban pattern, a decidedly positive one on building type, and an essential one on the architectural vernacular." Vernacular is in turn defined as "The common language of a region, particularly in reference to the architectural tectonics. Through time and use, the vernacular has intrinsically resolved the architectural response to climate, construction technique, and to some extent social mores. The writing of codes based on the emulation of the vernacular can dispense with basic research, resulting in design efficiency and the minimizing of errors." While this may be true in some cases, it is also sometimes based on imported styles (especially colonial imports) that have become the vernacular due to their sheer distribution. Climate concerns were not always the prime motivator, nor were local construction techniques, since many styles like the better-known English styles (ie. the Victorian style amongst others) consisted of mail-order elements that were manufactured overseas with no conception of the climates or localities where the elements would eventually be used. However, implemented sensibly, critical regionalism can be quite successful, although it should be accepted that it will usually reflect a specific cultural group rooted in a specific historic timeframe, which may have an exclusionary effect on other cultural groupings.

Krieger (1998, pp. 74) raises another view when he states that style does not determine community and quotes Andres Duany as saying "We New Urbanists are allergic to nostalgia." This is despite the fact that most New Urbanist developments regulate the implementation of revivalist Architecture. He goes on to ask "Can you separate out the search for the 'image of community' from the desire for community itself?" Ellis (2002, pp. 274) feels the arguments centered on nostalgia are without merit and that the Architectural establishment is increasingly losing touch with the marketplace. Marcuse (2000, pp. 4) opposes this view when he states "For it purports to hearken back to a form of 'community' that in fact very rarely existed in the past: The small-town America of nostalgic recollection (and of much of Disney

World), the ideal of middle America promulgated in the promotions for single family homeownership, the democracy of town meetings in colonial New England, the stable, family-oriented, homogenous community of a rural county. It is false historically; it evokes a past that never existed in the form in which the New Urbanism pictures it, and certainly not one that existed in an urban setting. It is more the image of community, than community that is recaptured." Harvey (1997, pp.2) poses the question whether collective memory is being recaptured or reinvented.

While the New Urbanism seems to have many advantages, its promotion of traditional building styles attracts a fair amount of criticism; Todd Bressi (as cited in Katz, 1994, pp. xxxvi) argues that New Urbanist proposals advocate overly romantic building styles and that many critics feel that visual style is given more importance than planning substance. This leads to many uninformed developers using the New Urbanism superficially by advocating revivalist building styles to improve marketability, without implementing the key aspects of the movement to try to improve specific neighbourhoods. He goes on to say that while some New Urbanist proposals may lead to improved neighbourhoods at a local level, these efforts will be meaningless on a broader scale if they do not propose or inform regional planning strategies.

As far as housing types are concerned, these are usually provided only for certain income brackets, which leads to the exclusion of low-income families and Bressi also feels that the movement has not sufficiently addressed ecological concerns, while only partly addressing social and economic aspects of sustainability. He contends that good design does not necessarily result in good communities and a community evolves over time with its own overlayed structures. Public spaces and civic buildings may be controlled by Homeowners Associations, so he asks the question whether they can then be considered true public spaces and whether civic buildings like clinics or churches will be available to the wider community or only to certain community members. Loomis (1999, pp. 3) mentions the view of several critics that Homeowners Associations are replacing citizenship and democracy, while strengthening middle-class identity. Marcuse (2000, pp. 4) confirms this when he

states that "The fully completed New Urbanist developments are in fact homogenous, and at a fairly high income level. Where an attempt is made to include some housing affordable to lower income families, Duany and Plater-Zyberk, gurus of the New Urbanism, suggest that 10% is the 'right ratio for achieving a mix without diminishing the value of surrounding properties.'"

Katz (1994, pp. xlii) is one of many who feel that the movement does have merits, although he is slightly more careful with his compliments than most: "The New Urbanism is a welcome step forward, but it is only a step. At best, the movement has refocused the public's attention more strongly on how the design of our communities has a very real impact on our lives. If the presence of projects in the landscape can inspire a broadened, sustained public debate about the nature of American communities; if Seaside, Laguna West, Riviera Beach and their descendants can create vivid alternatives to current atomised, privatised development patterns, then the New Urbanism might truly begin to reshape the American Dream." The same can be said for its application in South Africa or any other country that has similar planning problems to those found in the United States.

2.4 Smart growth and the Smart Code

In the United States of America, a code is what is typically referred to as a Zoning Scheme, Town Planning Scheme or Urban Regulation in South Africa; it is a set of rules in terms of which land may be used and developed. Growth management is a set of policies at the regional scale and it is used to manage growth over a wider area. Daniels (2001, pp. 277) describes the concepts of Smart Growth and the Smart Code as follows: "The term 'smart growth' suggests a public-private approach to managing growth that will produce the best of both worlds: Economic growth without the ugliness, congestion, environmental degradation, and wasteful public subsidies of sprawling development." Jabareen (2006, pp. 45) has a similar interpretation: "Management programs that attempt to balance growth while fulfilling economic, social, and environmental needs are often termed *smart growth* programs." He also acknowledges that smart growth borrows heavily from the

concept of New Urbanism since it also promotes densification, mixed-use development and pedestrian-friendly streets although it doesn't always support extreme densification or intensification.

According to Smart Code Central (2011), the Smart Code is "…a model transect-based planning and zoning document based on environmental analysis." It was originally drafted in 2002 by Duany, Plater-Zyberk and Company, but since 2004 it is an Open Source document. Duany, Sorlien and Wright (2005, pp. 2) describe the Smartcode as a tool that addresses the problems associated with sprawl at the decisive point where the law and design intersect. They call it a form-based code where the form of a region, community, block or building is planned and encouraged to represent the traditional forms of villages or neighbourhoods; this means that an actual physical outcome is envisaged at the outset. Duany, Speck and Lydon (2010, App. A) define Smart Growth in terms of six basic goals: Improving the living quality in neighbourhoods, better access to different daily uses with reduced traffic, the creation of thriving cities, suburbs and towns, shared benefits for people of different incomes and races, reduced costs and taxes due to a reduction of sprawl, and the retention of open spaces. They go on to recommend ten strategies in order to achieve these goals: The provision of mixed land uses, making the most of existing neighbourhood assets (ie. existing transport nodes, schools and parks), providing a wider range of housing types, the creation of walkable neighbourhoods, reinforcing the sense of place of specific neighbourhoods, preserving open spaces, promoting growth in existing communities, providing a variety of transport types, making Smart Growth developments as easy to implement as normal types of development, and encouraging public participation during the planning phases. These strategies are listed almost verbatim by ICMA (2010, pp. 6).

The New Urbanism framework and the Smart Code are usually applied in terms of the transect. This is a concept developed by Andres Duany whereby any region can be divided up into different zones or transects depending on the relative density and types of uses that should be found in each zone. This means that specific forms fit into specific transects, like an apartment building would only fit in a more urban

setting, while a farm house would only fit into a more rural setting. The transects identified by Duany range from the very rural to the very urban and they increase in density the more urban they are.

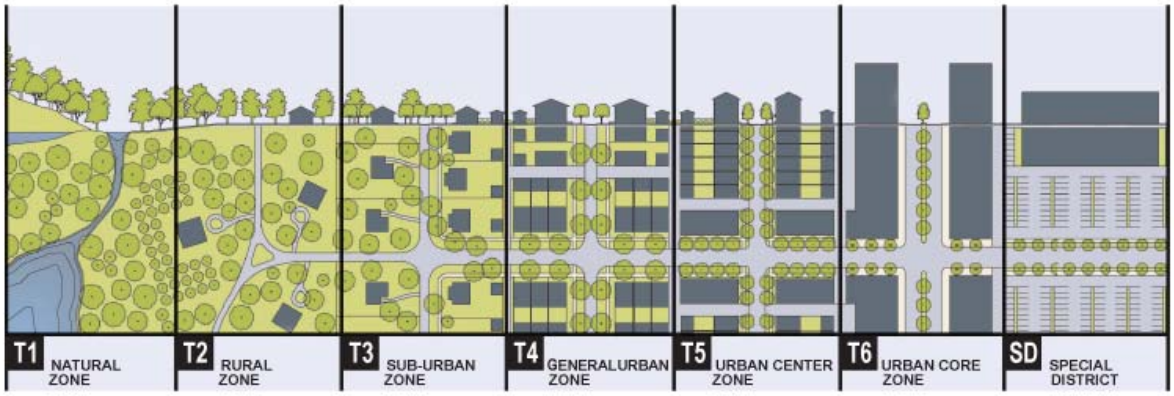


Figure 8: A typical rural-urban transect with transect zones. (Anonymous, Date unknown, pp. vii)

"The transect is a natural ordering system, as every urban element easily finds a place within its continuum. For example, a street is more urban than a road, a curb more urban than a swale, a brick wall more urban than a wooden one, an allee of trees more urban than a cluster. This gradient when rationalised and subdivided, becomes the urban Transect, the basis of a common zoning system." (Duany Plater-Zyberk & Company, 2002, pp. A4.1) Duany, Sorlien and Wright (2005, pp. 9) describe transect planning as a way to determine the most prominent qualities of a specific environment and to apply transect principles to ensure there is no incompatible mixing of urban and rural elements in a specific context. The transect is divided into six categories: T1 or the rural preserve/natural zone, T2 or the rural reserve, T3 or the sub-urban zone, T4 or the general urban zone, T5 or the urban centre and T6 or the urban core. There are also special districts for industries etc. This concept is similar to the grading system found in the Urban Biosphere reserve concept, which will be briefly explored later.

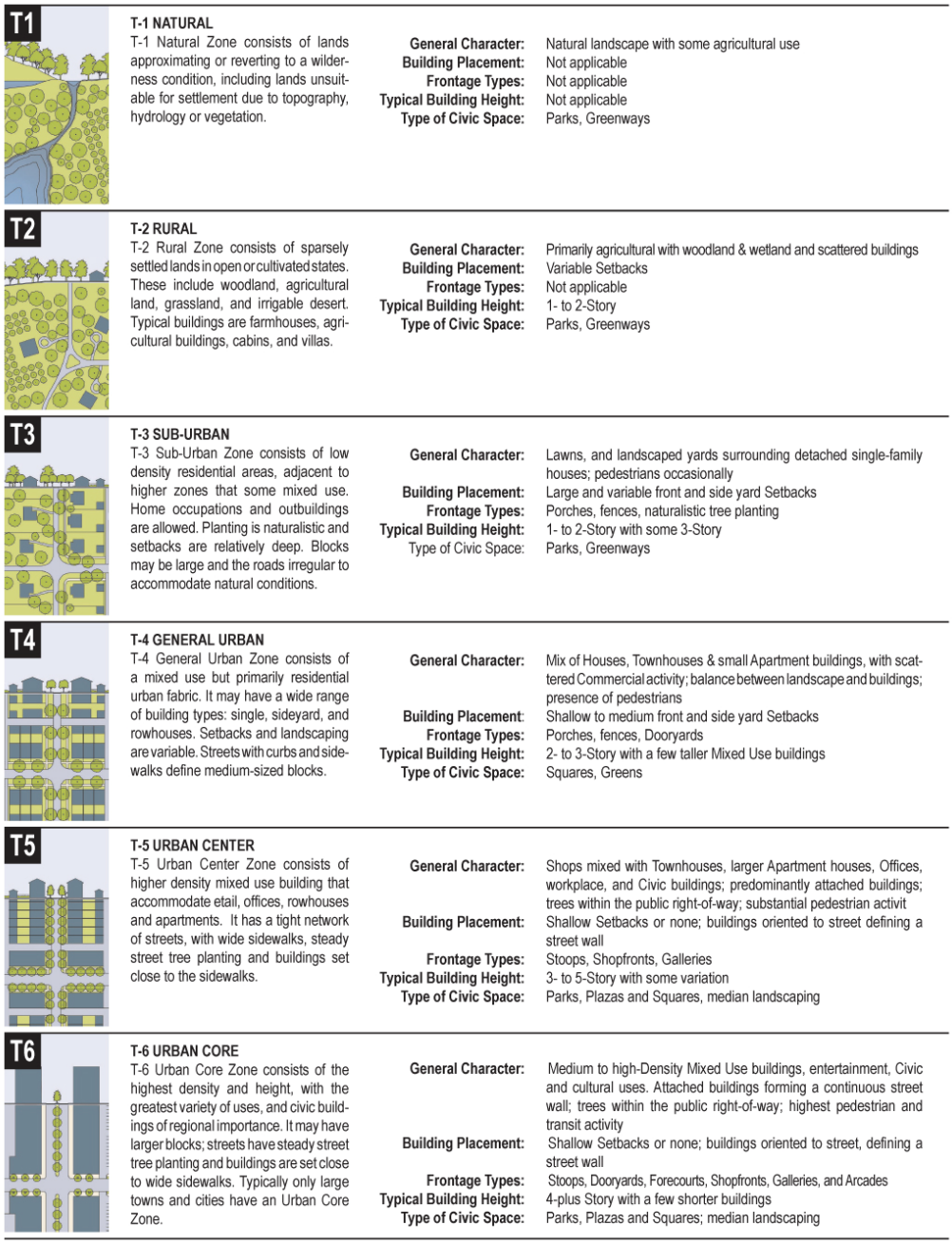


Figure 9: Transect zone descriptions. (Anonymous, Unknown, pp. SC27)

The T1 – Natural zone is basically wilderness area unsuitable for development, the T2 – Rural Zone consists of open land or cultivated land with limited settlement, the T3 – Sub-urban zone is mainly low-density residential areas with some home occupation, the T4 – General urban zone is still primarily residential, but with a mixed-use component, T5 – Urban centre zone consists of higher density mixed-use building types while the T6 – Urban core zone has the highest density where

regionally important civic buildings are located. The Smart Code usually requires local calibration so it fits with a specific regional character and it can either replace local zoning laws or it can be used as an overlay in conjunction with local zoning laws.

2.5 Coding and governance

New Urbanist developments usually enforce their rules by means of Code Books or Pattern Books; these tend to be very specific Architectural regulations that are enforced by the developments or Homeowners Associations themselves and where local authorities have bought into the codes, they usually tend to enforce them too once the proposals reach their offices. The codes typically include regulating master plans that indicate overall planning principles, regulation plans or urban standards that govern the public faces of private buildings, thoroughfare standards or street sections and Architectural/Landscape design guidelines that regulate the detailed design of buildings and landscapes. This is meant to ensure visual and functional coherence in the development, while also making it possible for a wider range of practitioners to be involved in the project.

According to Steuteville (2000, pp. 11-5), many Architects criticise the use of code books and pattern books since they tend to inhibit their creativity, but he goes on to state that the rules aren't cast in stone and that they challenge professionals to be creative within set limits. According to him, the residential and commercial buildings should not be too individualistic, but should form a coherent whole or a community of buildings; the civic buildings should be the ones that shine and where more freedom is allowed in the design. Loomis (1999, pp. 2) feels that New Urbanist codes are usually somewhat ambiguous and that they only promote homogeneity and inhibit individual creativity; this is in addition to the previously mentioned criticisms related to nostalgia. Ellis (2002, pp. 275) has a different view and feels that properly drafted codes can enhance creativity while improving the public realm (ie. by removing garage doors from the street). Some believe the strictness of these rules often leads to over-design and too much monotonous similarity, sometimes at the

cost of flexibility or adaptability over time. An example of this is Thesen Islands where some see the strict enforcement of the original guidelines as severely limiting to individual expression, despite many attempts by home owners, Planners and Architects to implement new elements or to apply for adjustments to the original guidelines. Ford (1999, pp. 254) refers to Kevin Lynch's book "What Time is this Place?" (1972, pp. unknown) when he says that "A problem arises, however, when neighbourhoods become frozen in time and change is disallowed."

These rules are enforced initially by the developer, but this function is gradually taken over by a Homeowners Association or Commercial Owners Association and the necessary management rules and deterrents for non-compliance are usually written into the initial sales documentation to ensure that buyers comply with the guidelines. There is usually also a building time limit, where a buyer has to construct a building of the required size and type within a set period of time from the date of transfer. Ford (1999, pp. 252) asks the question whether neighbourhoods can be referred to as "traditional neighbourhoods" if they are designed, controlled and maintained by corporations.

2.6 Public participation

The planning and governance of projects based on the New Urbanism and New Ruralism concepts is also mostly linked to participatory processes. Public participation in the New Urbanism is usually initiated through the use of a charette process, where experts from different disciplines work with stakeholders to develop a project proposal. It can be a fairly time consuming process and according to Steuteville (2000, pp. 10-3) costs for a charette process in the United States can range from $10 000.00 (R71 718.00 based on the September 2011 exchange rate) if it's a voluntary or sponsored charette to over $300 000.00 (R2 152 000.00 based on the September 2011 exchange rate) if it's a high-end professional charette. According to New Urbanists, the aim of any charette is to bring about real change in planning, people's understanding and governance: It should be an inclusive process

which is managed by an interdisciplinary professional team and it typically lasts for approximately one week.

The principles of the charette process are to involve all stakeholders from the very beginning, by allowing for interdisciplinary planning, short feedback loops and detail design. By involving the whole professional team, as well as the public (including potential objectors), and end users and officials; everyone's comments can be given attention, which New Urbanist practitioners feel results in a better product with the buy-in of the people who eventually need to approve it and/or use it. By involving different disciplines throughout the design process, a more continuously realistic project evolves – this is also aided by the shorter feedback loops where the design team doesn't retreat to their offices, only to present a "master plan" some weeks later. With a charette, the design is continuously revised, updated and presented to all the attendees until the project is understood by everyone and everyone has voiced their opinions while the process is still ongoing.

Duany Plater-Zyberk and Company (2002, pp. M4.1) promotes the same process and cites similar advantages like efficiency, increased agreement with the proposals and focused responses to opportunities and constraints. They go on to define a charette as "A term common to Architects, meaning to work continuously and quickly toward an impending deadline. It is derived from the French for little cart. Architecture students at the École des Beaux Arts in Paris had their drawings taken by such a cart to be judged by the assembled professors. The cart's approach was heralded by frantic work. The modern usage refers to a design process taking place in proximity to the site and in the presence of those affecting and affected by the outcome, generally the neighbours, developers, elected officials and administrators. All who will ultimately pass judgement on it."

The process usually consists of an initial one-day meeting by the project team to prepare a basic start-up plan, discuss desired outcomes, identify stakeholders and plan the charette process. This is followed by a preparation period where baseline data are assimilated, initial input is received from stakeholders and participants are

familiarised with the charette process. An initial public meeting is held to introduce the project while allowing participants an opportunity to make initial comments, before a site visit is arranged. An open studio is then established on site by the project team (this includes all the necessary equipment to develop the plans), meetings are held continuously with key role players and members of the public are free to visit the studio and interact with the team. Evening meetings are held with participants to present progress and receive input. The plans are continuously updated to reflect the feedback received until the charette finally ends with a full public presentation. The plans are then reviewed, revised and finalised before presenting them again before submission.

Duany, Sorlien and Wright (2005, pp. 3) emphasise that the involvement of many different participants is vital, since projects solely envisaged by a single designer or group of designers will only result in large Architectural projects instead of real urbanism. They also mention the importance of a fourth dimension, ie. time; real environments can only evolve over longer periods of time and can't be manufactured over short cycles. This is contradictory to most New Urbanist developments where the project is planned and completed within a fixed timeframe, while change over time is inhibited by the strict enforcement of the original guidelines or Codebooks.

Fainstein (2005, pp. 11) feels that the charette process is often just window-dressing since the planners generally tend to overpower the comments of other stakeholders and because they have predetermined outcomes in mind prior to the participation process starting: "The New Urbanists do not fear playing the role disdained by the communicative theorists – that of persuasive salespersons for a particular point of view and deployers of strategies aimed at co-opting people."

2.7 Performance

New Urbanism has gained a very large body of supporters, from the private sector to government, and its supporters are generally very vocal: One organisation in

particular, The Congress for the New Urbanism (CNU), is doing a lot to spread the word and it publishes regular newsletters showcasing the latest New Urbanist developments. Jabareen (2006, pp. 43) mentions various sources that confirm the basic aims and principles that Duany and Plater-Zyberk advocate, although he also cites a number of critics like Timothy Beatley who believes that there is a gap between the rhetoric of the New Urbanism and its results in practice and that New Urbanist developments sometimes lack the mixed uses, public transit and appropriate densities that would make them more sustainable. He calls for specific types of the New Urbanism that are more concerned with ecological design. Banjo (2008, pp. R13) confirms the view that New Urbanism doesn't place enough emphasis on the ecology: "When the Congress for the New Urbanism was founded in 1993, the emphasis was on fostering a sense of community, not saving the planet." While densification, transit and some of the principles of New Urbanism do reduce emissions and resource use, there are critics who suggest that New Urbanists generally don't pay enough attention to energy efficiency, resource consumption or stormwater management during building or infrastructure design: "…many critics argue that new urbanism goes only halfway in its environmentalism." (Banjo, 2008, pp. R13) Harvey (1997, pp. 2) mentions the fact that most New Urbanist developments are on greenfield sites and that they cater mainly for the wealthy who are possibly not after real community but the image of community.

Krieger (1998, pp. 74) argues along the same lines as Beatley when he claims that the New Urbanists have helped produce more subdivisions than towns, an increase in the private management of neighbourhoods instead of elected public governance, fairly homogenous enclaves, new desirable planned neighbourhoods and not enough infill development, a bigger focus on real-estate marketing than the convincing of local officials, the belief that good design can assure good communities, the belief that sustainable urban environments can be created among pastoral settings and the theory that city dwellers will move to new neighbourhoods reminiscent of older towns and villages that people left for the city a century ago. Despite that, he admits that the New Urbanism has exposed the shortcomings of current planning strategies and that it has refocused debate on the importance of real community, and while he

may contend that the New Urbanism's principles aren't all unique, it does not necessarily make them any less valid.

Moudon (2000, pp. 39) refers to studies that were done by transportation planners who compared existing cityscapes to test the claims of New Urbanism and the outcome was that New Urbanist neighbourhoods have less traffic congestion and better pedestrian travel than standard suburban neighbourhoods. She also mentions consumer preference surveys where prospective buyers much preferred New Urban neighbourhoods to others, although they usually felt that the stand sizes were too small; most people preferred the standard larger suburban property sizes. Ellis (2002, pp. 264) also states that there is a lot of evidence that New Urbanist planning improves pedestrian and cyclist traffic while arguing that New Urbanism won't be able to get rid of congestion completely, but that historical neighbourhoods in cities like San Francisco and Paris have public streets that enable a high quality of life with many transport alternatives despite also being congested.

Allen (1999, pp. 16) states that: "Features of the New Urbanism such as density, a compact mix of uses, street connectivity, pedestrian-orientation and transit suitability as well as its call for regional coordination of growth, have an effect on the trend's 'environmental footprint' in two ways. The New Urbanism reduces environmental impacts compared to conventional suburban development (CSD), and it enables environmental technologies that might be otherwise less feasible with CSD." He goes on to cite estimates by the California Air Resources Board that New Urbanist densities and mixed-use developments can reduce household-related carbon monoxide travel emissions from 700 pounds (317.5 kilograms) in conventional suburban developments to 400 pounds (181.4 kilograms) and nitrogen emissions from 55 pounds (25 kilograms) to 30 pounds (13.6 kilograms). Allen writes for the New Urban Network, so the findings may not be as objective as one would hope and they are not verified by other sources – furthermore, they are estimates only and are not based on actual measured data. Despite these seemingly positive estimates, Harvey (1997, pp. 2) feels that a sense of community or neighbourhood will not easily displace the public's love affair with the automobile. Allen (1999, pp.

17) also mentions a study undertaken by the University of Washington in 1997, where it was found that smaller traditional-style properties may use sixty percent less water than standard suburban properties, while research conducted by the University of North Carolina indicates that higher-density attached units have less embodied energy in their construction materials than freestanding buildings do.

Unfortunately the physical measurement of the effectiveness of various urban forms (including the New Urbanism framework in particular) seems to have been fairly difficult and studies are not readily available; Moudon (2000, pp. 39) suggests that the New Urbanists should make a point of studying their own work critically in order to establish a baseline for measuring future projects. Ellis (2002, pp. 261) comes to a similar conclusion when he argues that criticism centred around aesthetics, ideology, culture and the performance of the New Urbanism is still premature and unconvincing: "While New Urbanists can learn from the critiques of their work, and research gaps need to be filled, the New Urbanism remains a resilient, practical and well-founded alternative to conventional land development practices."

2.8 Examples

Seaside, Florida, United States

The town of Seaside on Florida's northern Gulf Coast (sometimes referred to as the "Redneck Riviera") is widely cited as the first Traditional Neighbourhood Development and as one of its best examples: It consists of approximately 350 houses, a successful commercial area and various civic buildings. Designed by Andres Duany and Elizabeth Plater-Zyberk of the firm DPZ, it exceeded the expectations of most people, especially the developer Robert Davis, who created it with a view to providing for average income earners. However, due to its success and location it ended up becoming a playground for the wealthy, which is similar to what happened on the Thesen Islands development in South Africa. According to Steuteville (2000, pp. 1-4) certain stands in Seaside started selling in 1982 at $15 000 (R107 577.00 based on the September 2011 exchange rate) and the same type of stand was selling

for $189 000 (R1 355 000.00 based on the September 2011 exchange rate) nine years later. On Thesen Islands, stands that were selling for R250 000.00 in 2001 ended up selling at over R1 000 000.00 approximately five years later. A big positive for Seaside is that it is not a gated community, so it is accessible to anyone, and that while most of the houses are rented out to holiday makers, which opens up the experience for a wider range of users, while Thesen Islands' residential portion is a private neighbourhood.

It would seem that houses in New Urbanist developments regularly sell at better prices than houses in standard subdivisions and a study in the United States by George Washington University revealed that houses sold at a premium of 11% more (Steuteville, 2000, pp. 1-3). This is a potential downside in South Africa where the biggest housing need is at the lower end of the scale. Steuteville (2000, pp. 103) cites this as one of the difficulties in the United States too, while other hurdles are to create successful commercial areas, overcoming local zoning laws and obtaining financing. All of these difficulties were and are encountered in some South African examples (again Thesen Islands is a case in point). These developments also need more professional design inputs by Planners, Urban Designers and Architects, which naturally leads to an increase in prices due to the increase in professional fees.

Fainstein (2005, pp. 12) mentions the market-driven demands that are typically found in New Urbanist developments where private developers dictate to the desired community both by purposefully excluding certain income groups and also by demanding higher-revenue properties that result in higher profit margins. "Only a publicly funded effort to combine social groups through mixing differently priced housing with substantial subsidies for the low-income component can produce such a result. The New Urbanists seek to create housing integration, but, in their reliance on private developers, they are unable to do so on a sufficient scale or across a broad enough range of housing prices to have a significant effect.

A serious effort to attract public subsidy for the low-income component of their communities would involve the New Urbanists in a political battle for which their

architectural training and aesthetic orientation offer few resources. The appeal of Victorian gingerbread and Cape Cod shingle would not override the fear of racial and social integration." Critics feel that Seaside is a manufactured "plastic" environment without any real layering of community – a view that is more widely held since it was used as the setting for the film 'The Truman show', but it seems many people tend to disagree: "Though dismissed by some critics as 'too cute' and not a 'real town', this new community-in-the-making has been the focus of constant media attention since its founding. Recognised in 1990 by Time Magazine as the 'Best of the Decade' in design, Seaside has also appeared in U.S. News and World Report, Smithsonian, Travel and Leisure, People and the Atlantic Monthly. Numerous television networks have featured the town, as did Prince Charles in his BBC television show and subsequent book on Architecture." (Katz, 1994, pp. 3)

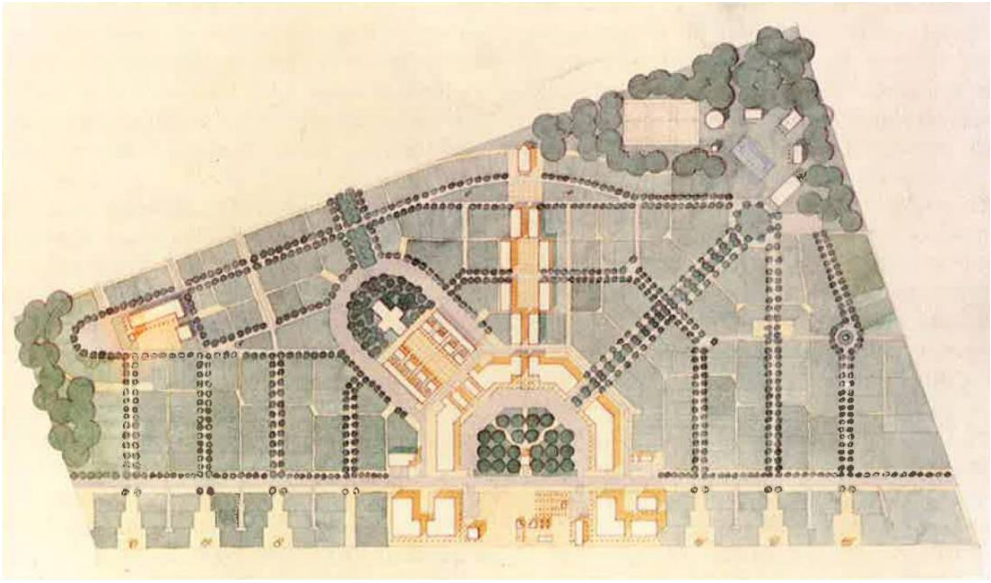


Figure 10: DPZ's map of Seaside shows how the neighbourhood was designed around the public spaces: A school on the far left, the cross-shaped town hall & the town square, an open market north of the town centre, the beach to the south and the sports facilities in the northeastern corner. (Katz, 1994, pp. 3)

The prime focus of Seaside's designers was the creation of a community, so they focused on the public spaces, which include the streets, boulevards and walks in the neighbourhood. The five minute walking distance rule was used to reduce dependence on the car, while a range of uses from retail outlets, a post office, a school, market, sporting facilities, three hundred and fifty houses and three hundred

apartments mean that many aspects of daily life are within walking distance. On a more critical note "Seaside's much touted sense of community is largely a result of the closeness of houses to one another and the street" (Katz, 1994, pp. 6). Katz states that a public participation process in the form of a charette, together with strict urban regulations has ensured that the project evolved in line with the expectations of stakeholders.

"And while its unique combination of stylistic and programmatic elements may not together constitute a 'real town' in the strictest sense, it's undeniable that the powerful ideas about community put forward at Seaside have already imparted some important lessons about the future of urbanism…" (Katz, 1994, pp. 6).

Figure 11: Tupelo Circle in Seaside shows how streets are defined by building frontages, how structures are used as focal points and how streets can become public spaces. (Katz, 1994, pp. 13)

Thesen Islands, Western Cape, South Africa

A number of these lessons were heeded and adapted for use on the Thesen Islands development on South Africa's Garden Route as designed by Chris Mulder and Associates Incorporated/CMAI Architects. Thesen Islands is a brownfield

development that entailed the complete redevelopment of a polluting timber factory situated on Thesen Island in the Knysna lagoon into a mixed-use development with uses ranging from single family homes to hotels and retail outlets. The DWN (Designing with Nature) tool was also used, which helped to inform the design decisions with the aim of improving the ecology on and around the island; this is despite the initial lack of a coherent national environmental policy during the planning phases of the development (there was no formal EIA process in place in 1990). This is evident in the eight year-long approval period and the required resubmission of the entire project proposal. “In his commissioned peer review of the environmental impact report, renowned marine and estuarine scientist Dr. Allen Heydorn highlighted the lack of planning policies and the inadequacy of the guidelines in the Knysna region as a whole. Any development was opposed because of the perception that only the developers were enriched by the process.” (Aupias & Mulder, 2008, pp. 56)

Figure 12: An aerial photo of Thesen Islands taken in 2008: No. 1 shows the commercial area known as Thesen Harbour Town & No. 2 shows the parkland and bird reserve. (CMAI archives, accessed 2011)

Improving the local natural environment by cleaning up an island severely polluted by decades of timber treatment processes was one of the biggest challenges on the project and the island now has a much improved natural environment (both above and below the waterline): The canals, canal edges, the salt marsh around the islands, roadside planting, the parkland, manmade beaches, the orchard with its urban agriculture, the crofts/potagers (private vegetables gardens in the parkland) and the bird reserve are just some of the areas where this is clearly evident.

Aupias and Mulder (2008, pp. 78) list the most important design strategies that were employed on the project as follows:

- An interconnected grid of pathways for pedestrians and cars (although there is only one vehicular access point onto the island and into the residential portion of the development).
- Ensuring that the pedestrian takes precedence over the car.
- Allowing for a mix of uses from retail outlets, restaurants, offices, hotels, apartments and freestanding single family homes. (A range of cultures and income groups is mentioned despite the fact that the development caters mainly for higher income groups; if some entry-level housing or inclusionary housing could have been included during the initial design phases the development may have been more inclusive.)
- A range of housing types and sizes including a number of apartments, guest flats, second dwellings and freestanding houses on erven ranging from 300m² to 1500m². (Due to the unexpectedly fast increase in property prices and building costs on the island, most properties were developed by higher-income individuals, which resulted in a more homogenous end product than was originally anticipated.)
- Quality Architecture and Design (albeit according to very rigid stylistic guidelines).
- The provision of a central high street lined with shops in lieu of an internal shopping mall.

- Higher densities than the norm.
- Smart transport that allows for walking, cycling and the use of boats instead of cars. (This is however, only on the island itself – most of the inhabitants work in the town or commute farther afield, which naturally still results in widespread automobile usage.)
- Sustainability related to reduced automobile use, the reduction of pollution and the improvement of the ecology.
- Enhancement of the natural environment.
- Respecting the past by acknowledging the vernacular Architecture of the region (although the vernacular refers to a particular cultural grouping in a particular time period), but also by retaining many of the existing industrial structures and equipment.
- Improving the quality of life through the use of traditional neighbourhood design strategies.

From a socio-economic perspective the development had to consider a wide range of people who would be impacted by the redevelopment: "Thesen Islands became the town's largest employer and payer of rates and taxes. Since the policy from the start was to use local labour, workers were recruited and retrained. Figures show that more than 10 000 people have been employed on the island, with new jobs created daily. Former factory workers were encouraged to learn new trades, and although many opted to move to the relocated factory, others became builders, carpenters, painters, maintenance and domestic workers… Small firms of contractors that sprang up grew from one-man operators to medium-sizes enterprises to meet the needs of the region." (Aupias & Mulder, 2008, pp. 138)

Labour-intensive construction was a key aspect taken into consideration during design decisions: The canal edges that were built out of gabion baskets filled with stone created work for more than a hundred and fifty formerly unemployed people, while all the street furniture and bridge rails were hand made by local craftsmen.

Figure 13: The construction of the canal edges on Thesen Islands.
(CMAI archives, accessed 2011)

According to Aupias and Mulder (2008, pp. 138) the project contributed approximately R150 million annually to Knysna's economy over the six year long construction stage. Ninety-three percent of the permanent employment opportunities on the island were filled by Knysna residents while the same applies to seventy five percent of the temporary jobs. Development Economists, Urban Econ, were employed by the development company to conduct a follow-up study in 2005 to compare the actual employment figures to the projections of a similar study done in 1999: The results showed that the actual figures were much higher than those anticipated. The initial model predicted 494 annual employment opportunities during construction with 78 annual employment opportunities during operation, but the actual figures (which are expected to grow exponentially over time) were 669 during construction and 262 during operation - this is an increase of 175 and 184 respectively. It may be argued that another development based on a model other than the New Urbanism may have produced similar figures, although one can surmise that the labour-intensive practices promoted by the developers played a significant part in the high employment figures. On the other hand, the high economic injection into the town could be attributed in part to the high-income residents that purchased property on the island, due to the predominantly high property prices. Gordon (1998, pp. 3) criticises New Urbanist developments and the

Congress for the New Urbanism in particular when he states: “CNU rhetoric gives substantial attention to promoting equity, fostering residential mixing, affordable housing provision, and reducing central city-suburb income differentials via middle-class infill development. Yet there is little evidence that NU communities have achieved these goals. Instead, they are turning out to be rather elitist settlements with average income levels much higher than in the surrounding areas.”

2.9 Adapting the concept to local conditions

The New Urbanism concept clearly evokes extensive debate and it has both ardent supporters and many critics. While it has, like most spatial planning models, various negative points and while it does lack a more rigorous focus on social and environmental aspects, it does seem to have merit from a spatial planning point of view as even some of its critics admit. Based on the principles and strategies discussed in the previous sections, it would appear that there are a number of strategies that may be applicable to the South African context. How to implement these strategies is somewhat more challenging than merely listing them and the Crossways Farm Village case study may show how some of the strategies can be implemented in practice:

1. The creation of integrated, discernible neighbourhoods that have a legible core and clearly defined edges in order to strengthen the feeling of community within a specific neighbourhood. However, in the South African context with its historic group areas concept, discernible neighbourhoods with defined edges contributed to spatial exclusion and fragmentation, so a focus on activity routes that link the various neighbourhoods should be strongly considered.
2. The creation of mixed-use developments where the daily or weekly needs of residents are within easy reach. This naturally reduces the need for vehicular travel which has its own benefits, but it also provides employment opportunities closer to home and it makes neighbourhoods safer and more vibrant if there is activity throughout different times of the day. (This can be

used in conjunction with the principles of CPTED as mentioned previously.) Unfortunately, most people living in New Urbanist developments still work outside the development where they live, which means automobile use remains fairly high despite the fact that people may walk more inside the development itself.

3. The implementation of the five-minute walking radius (which equates to approximately 400 metres) – research has shown that this reduces the use of vehicular transport within the development, it can lead to improved community interaction (and safety) and it also has health benefits. It empowers residents who do not have access to private vehicular transport, especially the poor, older people and younger people, although as mentioned previously, it is one matter allowing for the necessary amenities within walking distance, but quite another to convince people not to use their cars.
4. The provision of a wide range of housing types in every neighbourhood. This results in better integration of age, income (and by default, race) and it creates a more vibrant community. By allowing opportunities for entry-level home buyers, inclusionary housing and smaller rentable apartments or granny flats makes it possible for a much wider range of people to live in areas that would otherwise be too expensive, although most New Urbanist developments still mainly cater for the high-income earning end of the spectrum.
5. The provision of more useable public spaces. This includes the positioning of a small park close to every neighbourhood block, the positioning of civic buildings like schools, community halls, churches and post offices on prominent sites and most importantly the treatment of roads as public spaces. Enhancing the public realm by encouraging pedestrians to use the streets and open spaces through good design may result in increased defensibility of these spaces, while encouraging interaction.
6. The provision of schools (preferably within walking distance of neighbourhoods) in new developments. Schools can be positioned on the edges of neighbourhoods so more than one neighbourhood can be serviced simultaneously.

7. Making use of existing services and amenities, like transit nodes, existing schools or educational facilities and employment opportunities.
8. The implementation of effective community governance. Despite the criticism against Homeowners Associations, they can be very effective in lightening the burden on local Municipalities by managing their own electrical billing systems, maintaining local infrastructure themselves, managing on-site waste treatment, and managing their own integrated stormwater solutions.
9. The use of critical regionalism to enhance the sense of place and to maximise the use of locally available materials and skills, while using locally applicable passive design elements that may typically be evident in regionally appropriate vernacular Architecture. The challenge here is not to cling too rigorously to one specific cultural vernacular and to allow change over time to allow a neighbourhood to develop the layering that is so needed to create a visually vibrant area.
10. The application of the Designing with Nature (DWN) methodology whereby all the relevant constraints on a specific site are mapped and the appropriate areas are designated as no-go areas for development.
11. Promoting Smart growth principles and the education of local governing bodies on how to implement and evaluate Smart growth strategies (and by default New Urbanist principles). During the Thesen Islands planning phases, the officials did not have existing guidelines for the approval of some of the smaller single residential property sizes and only by working with them were these smaller properties able to be developed. There are also issues like overly wide road widths required by local officials or transport planners that are a regular bone of contention and the smaller pedestrian-friendly road types usually have to be demonstrated through the use of previous physical examples.
12. The use of charettes as part of the public participation process in order to physically involve local communities and stakeholders in the planning and decision-making process. This goes one step further than just getting feedback on completed project proposals.

There are some additional strategies that do not typically form part of most New Urbanist developments, but that have surfaced during the analysis of specific case studies like Thesen Islands: The use of ecological design principles (both passive and active measures to improve energy-efficiency, save water resources and improve the natural environment) for civil works and general building works, the use of labour intensive construction techniques to provide more opportunities for locally available unskilled labourers (which also leads to local economic development, skills building and the potential for growth) and the use of indigenous planting and integrated landscape planning.

A potential option would be to combine the New Urbanism framework with the Urban Biosphere concept. The biosphere reserve concept was first developed by UNESCO's Man and the Biosphere (MAB) programme in 1974, but in recent times, its promotion in urban areas has gained increasing popularity in the Madrid Action Plan for Biosphere Reserves (UNESCO, 2008). It is primarily concerned with improving the relationship between people and the natural environment, so a biosphere reserve should be a place where biological diversity is preserved, economic development is promoted and where cultural values are maintained. A biosphere reserve should ideally consist of core areas that are devoted to conservation, transitional areas where conservation-compatible human activities take place and buffer areas where sustainable resource use is promoted. This staged approach should be fairly compatible with the transect-based approach of the New Urbanism concept. Frost (2001, pp. 2) mentions some models that can cover urban areas in whole or in part: Where an entire urban area is designated as a biosphere reserve, where the biosphere reserve permeates the urban area, or where the biosphere reserve borders urban areas.

2.10 Conclusion

It would seem that the New Urbanism framework has many potential benefits and lessons for South Africa, especially if it is adapted for the local context, and combined with other concepts like urban biospheres. While the abovementioned strategies for adaptation may not encompass all the tools available to experienced planners, these are deemed the most appropriate to the South African context and they are also those strategies that are the most likely to be achievable. Gordon (1998, pp. 1) makes the important point that it is simplistic to think that physical planning interventions alone can address issues like sprawl, the loss of agricultural lands, racial segregation and segregation by income. These strategies will have to be critically evaluated and combined with socio-economic policies based on specific contexts before implementation, together with environmental design strategies and concepts like the Urban Biospheres - cognisance has to be taken of some of the potentially negative aspects that have been highlighted in order to find a balanced solution to each particular project.

Chapter 3: The New Ruralism

3.1 Definition

Kraus (2006, pp. 27) defines the New Ruralism as a framework to join the concepts of Sustainable Agriculture and the New Urbanism. She argues that New Urbanism acknowledges the importance of agriculture and the natural environment, but that the opportunities of improving these rural areas have not been properly investigated. She defines the New Ruralism's initial vision statement as follows: "New Ruralism is the preservation and enhancement of urban edge rural areas as places that are indispensable to the economic, environmental, and cultural vitality of cities and metropolitan regions." Stratton (2009, pp. 1) has a simpler interpretation when she defines New Ruralism as "…a philosophy known by different labels but with the core idea of re-connecting with the land while encouraging smart growth."

Moffat (2006, pp. 72) is also positive about the potential contribution that the New Ruralism can make to rural development, but he cautions against developments that piggyback on the popularity of the New Urbanism by merely using the terminology without implementing any of the basic principles inherent to both movements. He mentions examples that are touted in glossy marketing brochures, but that have almost nothing to do with farming. He refers to these as "free-range consumerism" where estate agents tap into the traditional fear that many people have about the nature of the city, while they promote the wide open spaces with all the amenities that potential buyers have become accustomed to. "In this rural landscape, every bedroom has its own bath, country roads are never manure covered, farmers don't have bad teeth, and intimate contact with nature is complemented by full access to premium entertainment services."

3.2 History

While Fainstein (2005, pp. 10) likens the New Urbanism to Ebenezer Howard's work, his Garden City movement seems to have more in common with the New Ruralism. Kraus (2006, pp. 27) cites Howard's work as a precedent for the New Ruralism,

together with some of the elements typically found in eco-villages, while Wartzmann (2007, pp. 1) also mentions Howard's aims of combining the urban and rural areas into a single environment called the Garden City. Howard (1902, pp. 17) describes his vision as follows: "But neither the Town magnet nor the Country magnet represents the full plan and purpose of nature. Human society and the beauty of nature are meant to be enjoyed together. The two magnets must be made one. As man and woman by their varied gifts and faculties supplement each other, so should town and country."

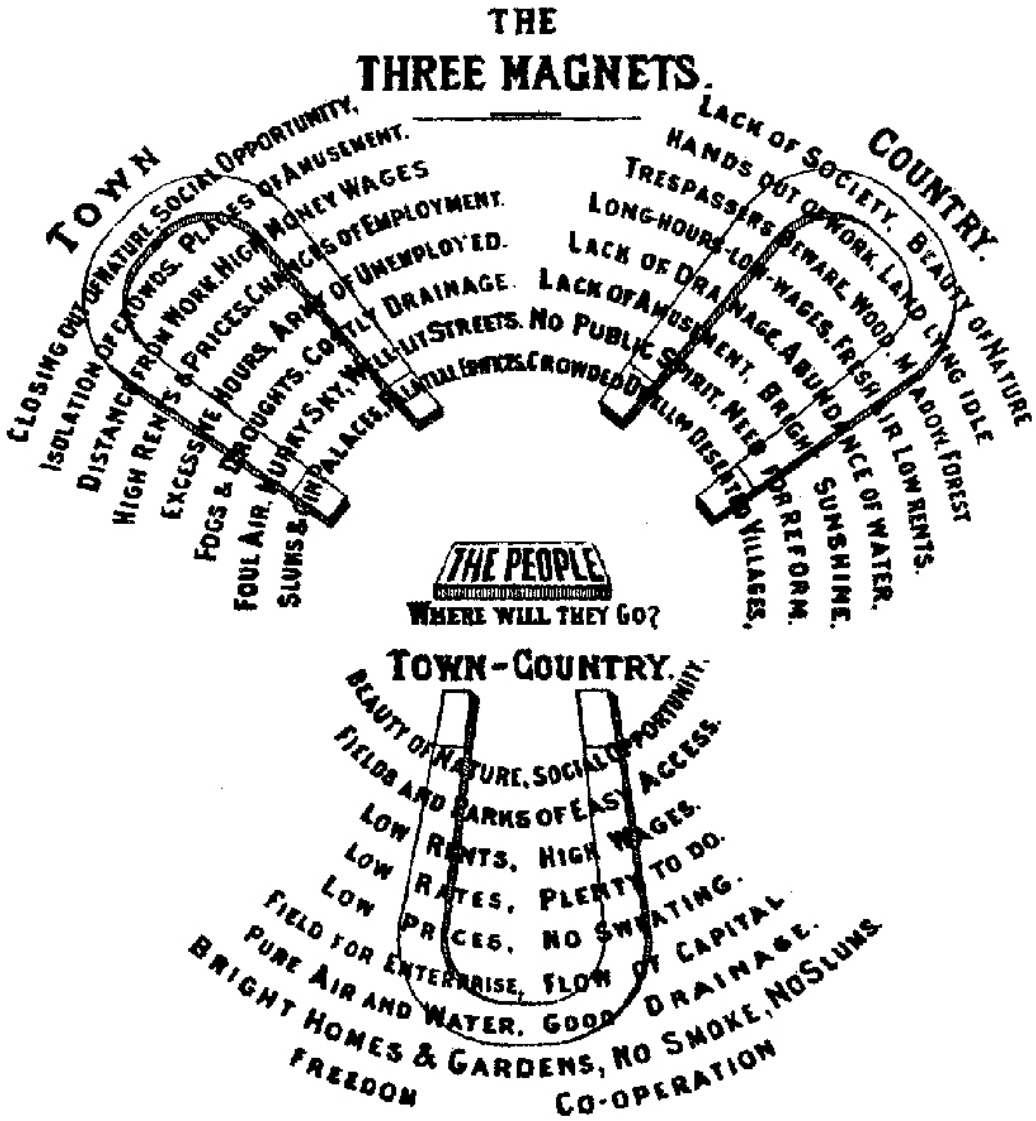


Figure 14: "The three magnets". (Howard, 1902, pp. 16)

"New Ruralism is built on twenty years of reform – in food, agriculture, and land use planning. The sustainable agriculture and local food systems movements have taken organic foods mainstream, made farmers' markets a basic town-centre amenity, and put 'slow food' on a fast track. At the same time, New Urbanism projects and Smart Growth initiatives have demonstrated the possibilities of creating healthier, more liveable urban centres." (Kraus, 2006, pp. 27)

The rationale for the development of the movement is that cities and regions need a productive hinterland where individual farms and rural communities can look after natural resources while making a sustainable living. Moffat (2006, pp. 74) supports this statement by saying that farmers are not only producers of food, but that they are also the stewards of the public's natural heritage. The agricultural areas around larger cities are increasingly under threat from sprawling suburbs and these areas face additional pressures due the degradation of the natural environment, industrialised farming practices and the global food economy. Kraus (2006, pp. 27) feels that industrial farming practices and suburban sprawl are similar in that they both have little regard for their natural environmental context.

While urban infill, redevelopment and regeneration may be the ideal focus of development, there are not always enough available properties for this type of development and neighbourhood groups who oppose development in their respective areas (also referred to NIMBY – "Not in my backyard") hamper inner-city infill. While the global figure for urbanisation has now passed 50% according to many reports, the remaining 50% of people still live in rural areas. With current planning legislation (especially in the Western Cape) not catering for rural development through the enforcement of Spatial Development Frameworks and urban edges, a large portion of the population is totally cut out of economic development, social upliftment and opportunities for growth.

3.3 Principles

To take advantage of urban-rural linkages in terms of transport, infrastructure and markets, New Ruralism projects are typically established close to larger metropolitan centres. This also means that permanent agricultural and natural areas can be provided close to urban centres to contribute to food security while also allowing urbanites some connection with the land. Wartzmann (2007, pp. 1) argues that the key to the success of New Ruralism projects is to understand that they form an integral part of metropolitan regions.

Kraus (2006, pp. 28) defines the principles of New Ruralism projects as the following:

1. Establishing very specific rural communities close to an urban area within a larger metropolitan region. These rural communities should be uniquely contextual in terms of culture, landscape, farming and the environment.
2. The primary land use should be small to medium-scale agriculture that's interlinked with natural areas.
3. Effective urban-rural linkages for the provision of locally grown produce. Other linkages in addition to this one could include physical links in the form of hiking trails, bicycle routes and equestrian routes, environmental linkages in terms of ecosystem services like composting, the recharging of groundwater, protection against flooding and forest fires and the enhancement of biodiversity.
4. Welcoming the public as visitors and residents. This principle should apply to a wider section of the community and it should not be exclusive to higher income earners; this can typically be achieved by a better range of housing types that include higher density units (which also means that more land is available for farming or preservation).
5. The implementation of a comprehensive development and management plan. The planning involved may include specific targets for local employment, education and food production.

Stratton (2009, pp. 4) mentions another characteristic of New Ruralism, which is that New Ruralism communities usually consist of multiple neighbourhood centres in the form of rural villages or hamlets that are linked up with pathways. This is in contrast to most developments that have a single dense urban core with lower density uses towards the edge.

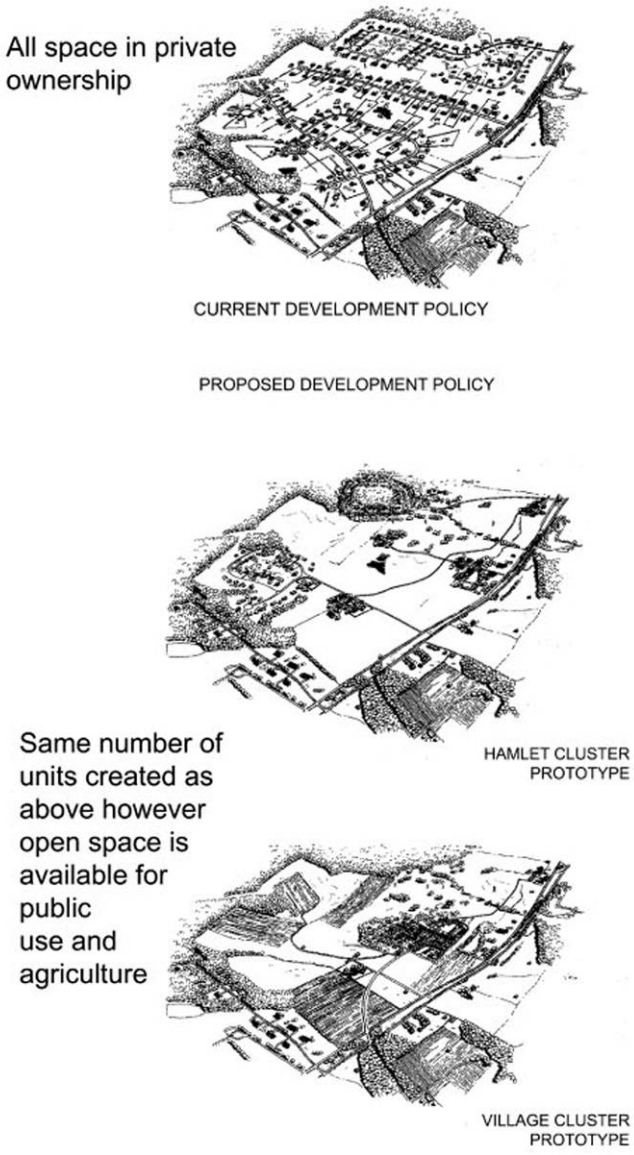


Figure 15: A comparison between standard development, farmhouse clusters and villages. (Arendt, 1994, pp. 200)

The New Ruralism can capitalise on market forces like city dwellers' search for a rural lifestyle and the increasing demand for food with "terroir" (ie. the flavour inherent in a specific piece of land). However, some requirements in order to make use of these opportunities would be to have existing, experienced farmers working in conjunction with new upcoming farmers, crops and livestock that thrive in that particular location, the necessary infrastructure for processing and delivery, affordable housing for farm labourers and the promotion of agri-tourism. An opportunity that is mentioned by Wartzmann (2007, pp. 3) is Community Supported Agriculture (CSA) where customers have direct links with farms where they pay upfront and receive a weekly or monthly delivery of produce harvested at that time;

this removes the middlemen (which ensures increased profit to the farmers and lower costs to the consumer), it educates the public about seasonal eating and carbon miles, it gets fresh produce to the market quickly and it improves awareness about the origin of food.

Moffat (2006, pp. 75) lists some incentives and deterrents in order to retain agricultural areas around urban centres - these include increasing the value of agricultural outputs by switching to organic varieties and the establishment of direct links with the public through farmers markets or supply arrangements with restaurants, the improved branding of locally sourced foods, subsidies for farmers who contribute to ecosystem services or tradeoffs where urban developers can be allowed higher densities if they purchase land for conservation (as agriculture or in its natural state) in rural areas. Wartzmann (2007, pp. 2) is somewhat more cynical when he asks the question whether farmers markets will remain accessible only to the wealthy and whether farmers can be persuaded not to sell their land to the highest bidder, since many farmers bargain on selling their property to a standard suburban developer as a kind of retirement policy. Another challenge as mentioned by Stratton (2009, pp. 7) is how to ensure the land is preserved as farmland or nature in perpetuity.

3.4 Rural smart growth

ICMA (2010, pp. 8) identifies the three goals of rural smart growth as support for the rural landscape, assistance to existing places in order to help them become vibrant again and the creation of good quality new places. These goals can be applied to the different types of rural communities, which can be categorised as gateway communities (these are typically close to large amenities like national parks), resource-dependent communities (like farming or mining communities), edge communities that are close to metropolitan areas, traditional main street communities and second home/retirement communities. Many communities may be a combination of some of the above and may be connected to others in a different category.

According to ICMA, some of the primary challenges of these rural communities are the reduction in farms and farmers (which is mainly due to the expansion of larger commercial farms), the loss of natural environments due to uncontrolled development in many cases, excessive growth at the metropolitan edges, the shrinking population in rural areas due to urbanisation (which is mainly due to the lack of opportunities, amenities and linkages to urban areas), limited access to employment, services, health care and education and a lack of planning capacity, especially at governmental level.

The first goal of rural smart growth is to support the rural landscape. This means the establishment of an economic climate that can make rural areas more economically feasible while at the same time preserving natural areas. The following strategies with their respective tools and policies are suggested as starting points:

1. Ensuring the feasibility of regional resource economies. This can be done through the voluntary adoption of “use value” taxation where rural land is taxed according to its current use instead of on valuations based on its anticipated value that takes potential development rights into account. Giving tax rebates for the donation of conservation areas, the granting of rights to farmers to prevent nuisance lawsuits by neighbours, establishing ecosystem services markets (where heavy carbon emitters pay farmers for carbon credits) and the granting of rights to develop renewable energy systems on agricultural land (for example wind turbines, biomass or solar power installations) are some alternative policy approaches that could be adopted by local government. Farmers can also add value to their products by processing the products locally through cooperatives; this also provides additional local employment opportunities.
2. Promoting developmental strategies that make use of the rural landscape. This can be done through the Purchase of Development Rights (PDR) where the development rights on a piece of rural land is purchased from the farmer

and the development rights are rescinded upon purchase in order to conserve the land, or it can take the form of an agreement with government where a piece of land is declared as a conservation area in return for tax credits, or alternatively government can purchase the land directly. Another vital tool to make use of the rural landscape is agri-tourism or ecotourism which can lead to additional employment opportunities too.

3. Promoting linkages with urban areas and marketing rural produce. This can be done through farmers markets or Community Supported Agriculture (CSA) as mentioned previously, "buy local" campaigns or the purchasing of goods by government agencies like schools, hospitals or prisons.
4. Combining conservation and community. This can be done through the Transfer of Development Rights (TDR) where one area is declared a conservation area while transferring its development rights to another area, identifying priority funding areas (PFAs) that qualify for subsidies or assistance, the granting of zoning rights for agricultural purposes or allowing denser development in hamlets or villages in order to retain additional open space on the remaining properties.

The second goal of making existing rural places thrive includes the maintenance and protection of existing amenities, infrastructure and places that have meaning for the local community. The following strategies with their respective tools and policies are suggested as starting points:

1. Public investment in rural areas. The five tools to consider for this strategy are repairing and maintaining existing infrastructure, the preservation of historic structures or areas, developing parks and rural areas as destinations, improving existing streetscapes and focusing new developments in existing nodes.
2. Private investment in rural areas. This can be encouraged by providing incentives for infill in existing nodes while adjusting local laws to make it possible. Communities can declare themselves ready for redevelopment and Municipalities can split rates and taxes in order to separate land from

buildings. By lowering tax for buildings and improvements, private developers can be encouraged to invest in the maintenance and improvements of structures.

3. Using existing rural amenities. This is mainly the adaptive re-use of existing structures and the rehabilitation of existing educational facilities.
4. Encouraging growth in existing rural centres. Conducting surveys to determine the strengths and weaknesses of local business can help to focus development, while businesses that contribute positively should be recognised and rewarded accordingly.

The third goal of creating good new places is about establishing sustainable communities where people of all age groups want to stay permanently. The following strategies with their respective tools and policies are suggested as starting points:

1. Making allowance for compact growth by updating regional policies. A starting point for doing this would be for communities to organise visioning workshops, decide on conservation-worthy areas in their region, prioritise areas for growth, recognise the unique characteristics of their area and maximise transportation grids in their hamlets and villages.
2. Reduce the amount of red tape for responsible development. Local policies and zoning schemes should be updated especially to allow for mixed-use development, more compact pedestrian-friendly communities with plenty of open space and Traditional Neighbourhood Development (TND) principles. This can include the adoption of form-based codes that can improve the predictability of new developments. Contextually appropriate development, “green” street design and low-impact development where roadways are designed to allow the natural management of stormwater are further tools that can be employed.
3. Provide incentives for developments that incorporate smart growth and green building. This could take the form of smart growth recognition programmes or green building rating tools.

Harrison and Todes (2001, pp. 65) confirm that there is a new resurgence of regional planning strategies based on Smart Growth principles in the United States although it varies somewhat between states. “Smart growth approaches are not a guarantee for success in declining rural communities, but they articulate alternative approaches to attracting the large corporation or big factory complex, which is often the primary economic development strategy and can be at odds with rural character.” (ICMA, 2010, pp. 7)

3.5 Examples

Serenbe, Palmetto, United States

There are a few examples of projects that have implemented some aspects of the New Ruralism framework in North America, for instance the Qroe developments in New England, Monteluce in Dahlonega (Georgia) and Serenbe in Palmetto, South Fulton County. According to Stratton (2009, pp. 5), Serenbe is arguably the best example of New Ruralism in that region. It’s a 360 hectare development situated approximately 50 kilometres from Atlanta and it consists of three separate rural hamlets that have a variety of elements ranging from residential properties, commercial opportunities, a restaurant, an organic farm, on-site waste water treatment and pedestrian friendly streets with edible landscaping in the public areas. Each hamlet has its own theme: Selborne is all about food and art, Grange is a farming hamlet where the organic farm and stables are situated, while the third hamlet (which is still in its planning stages) will be devoted to health and healing.

The development was designed to follow the natural traces of the landscape, while retaining large areas of the natural landscape in conjunction with the farmland itself (70% of the property is being preserved as open space) and it was also planned within a larger regional plan for Chattahoochee Hill Country. This regional plan encompasses an area of more than 16 000 hectares, of which 70% has to remain open space for farming or conservation. This regional plan came about partly

because the original owners of Serenbe negotiated with neighbouring owners to lobby for zoning changes because they were concerned about encroaching sprawl. (Sack, 2009, pp. 1) They accepted that development is inevitable, but wanted to set an example of an alternative development model.

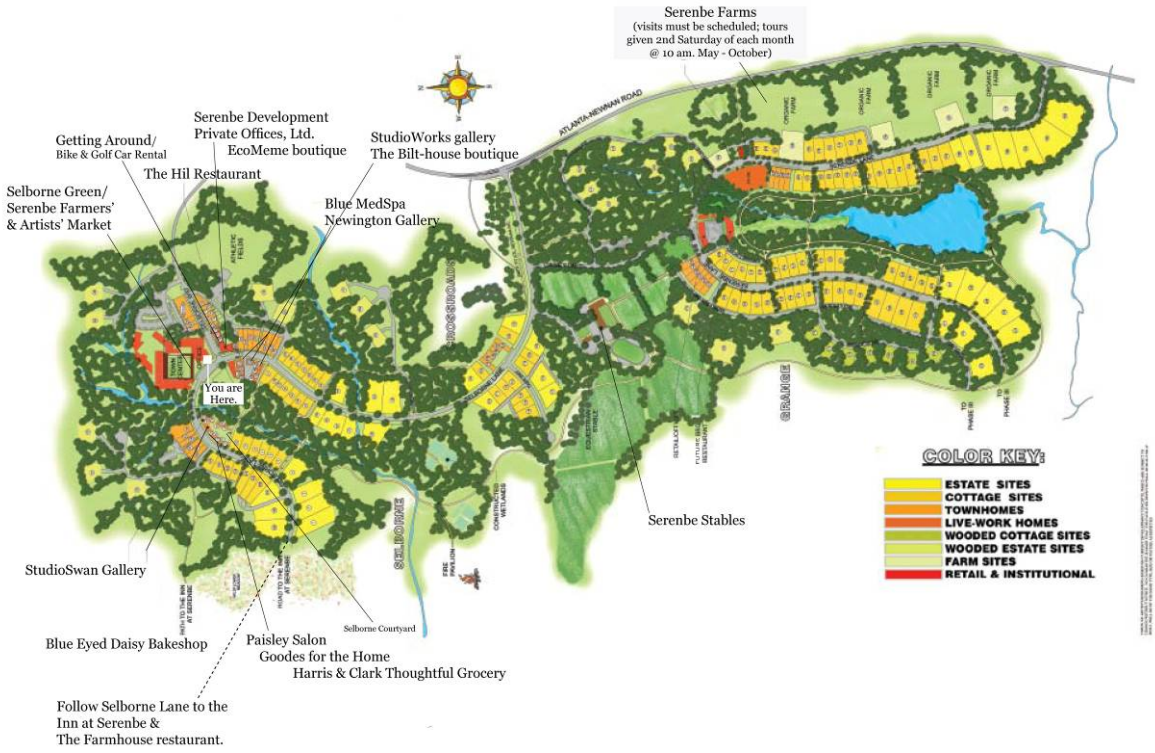


Figure 16: The Serenbe layout plan. (Serenbe Community, 2011)

Serenbe's website states the development's principles as follows:

1. Good design. This includes minimising the impact on the landscape, creating a pedestrian-friendly environment, only using indigenous plants and making use of organic landscaping.
2. "Earthcraft" housing. This is a local building certification system that governs the energy and resource efficiency of buildings.
3. Waste water treatment. This includes the recycling of waste water for irrigation purposes.
4. Stormwater management. Stormwater isn't channelled, but is dealt with via planted filters like swales.

5. Organic farming. The farming operations are certified organic and biodynamic with well-established CSA networks. Weekly farmers markets are also held for the improved delivery of fresh produce.
6. The preservation of land in its natural state and for agriculture.

Figure 17: An agricultural patch in Serenbe. (Sack, 2009, pp. 1)

Serenbe basically conforms to Kraus's principles as mentioned earlier in this chapter. It's close to Atlanta, the primary use is farming, it has good urban-rural linkages (although there does not seem to be any form of public transit so the physical linkages are mainly via private cars) and it is part of a larger regional plan. It's also open to visitors and Sack (2009, pp. 1) confirms that it has become a destination for people from Atlanta who want to go on daytrips. Langdon (2009, pp. 2) states that the farming operation is highly regarded in the region for the quality of its produce and that people pay $750.00 (R5378.00 based on the September 2011 exchange rate) for a full share of the farm from April to October. Some criticisms are that the individual hamlets are not dense or compact enough and that there is no gradual transition from the natural landscape to the higher density centre, mainly due to the omega-shaped layout forms. This is despite the Serenbe website mentioning that some New Urbanism principles and the transect model was used to organise the layout. On the positive side, the Architecture is not as homogenous as most in New

Urbanist/New Ruralist developments since there is a fairly diverse mix of vernacular and modern typologies; there is a good mix of housing types and a variety of uses.

As far as conservation is concerned, a study by Arborguard Tree specialists from Atlanta showed that Serenbe's trees (which consist mainly of Loblolly pine, White Oak, Sweetgum and Water Oak) store 1 333 840 tonnes of carbon, and they sequester an additional 52 660 tonnes of carbon annually, while also removing 1481.01 tonnes of pollution out of the atmosphere annually. This is equal to sequestering the annual carbon emissions of 7 213 cars and storing the equivalent of the emissions of 182 717 cars. (Atlanta Business Chronicle, 2009, pp. 25A) In addition to this, the trees naturally add to the biodiversity and local ecosystems while helping with stormwater management and climate control.

It seems that Serenbe's approach is paying off – while the National Association of Realtors in the United States reported a 37% slump in new house sales in 2008 and predicted a further slump of 39% in 2009 at the time, Serenbe had a steady sales rate: "Serenbe, a community founded on principles of farm-to-table cooking and environmentally conscious building techniques, has seen its fortunes rise while the rest of the country struggles. The development's founders have sold four homes and five building lots at the development since January alone, and they believe that innovation may be just the thing the economy needs." (Eastment, 2009, pp. 1) This is confirmed by Langdon (2009, pp. 2) after he attended a meeting of the National Town builders Association (NTBA) in Georgia: "Yet for the most part, they seemed confident that if business has been slow for new urbanists, it's even worse for developers of conventional subdivisions."

Maselspoort, Free State, South Africa

A South African example in its planning stages is the redevelopment of Maselspoort on the Modder River just outside Bloemfontein along the principles of New Ruralism. According to Eicker (2007, pp. 12) "This is essentially a vision to protect surrounding natural environments while promoting the growth of local rural economies." She quotes Dr. Chris Mulder of CMAI Architects asking the question "What about the rural people? More than half the country lives in rural areas so, if all the development happens within the urban edge, what's going to happen to rural communities? People will either flock to towns because that's where the jobs are or we will need to develop rural nodes and have a rural edge as well to protect the natural landscapes. Even in prime agricultural environments we need to identify small rural nodes to keep the local communities alive and boost rural economies without necessarily sacrificing prime agricultural land." ICMA (2010, pp. 1) has a similar viewpoint: "In communities facing growth pressures, there is often a struggle to maintain farmland or natural landscapes, small-town traditions, and rural character while still benefiting from development."

Maselspoort is a resort that was established in 1933 and it was quite popular until becoming more and more neglected in recent years. The current redevelopment plan is to restore the existing resort facilities for use by the residents and for day visitors from Bloemfontein and the surrounding areas. This will form the heart of a mixed-use development with uses ranging from retail space, trading outlets (ie. farmers markets), apartments and approximately four hundred houses of various sizes to cater for different income brackets. A school is also planned to service the low-income residents of the surrounding areas, while the Boyden Observatory built by Harvard University in 1927 will remain in operation. Extensive sections of the existing infrastructure and buildings will be adapted for re-use; all the buildings have been planned according to passive design principles, while using the rural Free State vernacular types as a precedent.

Figure 18: The Maselspoort site development plan. (CMAI archives, accessed 2011)

Since the primary use at Maselspoort itself is not agricultural due to its relatively small size of 85 hectares, it doesn't conform to Kraus's principles as mentioned earlier, but since it will be a rural hamlet surrounded by farms and natural open space within reach of a larger city it can be seen as a New Ruralist community on a regional scale with Maselspoort at its centre. It will, however, have sections of urban agriculture, while the natural vegetation and the section of the Modder River that runs through the property will be preserved and managed by the community. The Maselspoort waterworks are located alongside the proposed development, so there is existing infrastructure for potable water, and on-site sewage treatment is planned to re-use the treated water for irrigation purposes.

Figure 19: Farm cottages along one of the green belts in Maselspoort. (CMAI archives, accessed 2011)

It incorporates many of the basic principles of the New Urbanism framework in addition to the mixed uses and range of housing types, like the 5 minute walking shed, pedestrian friendly streets designed as public spaces, a clearly defined centre and edges, the provision of a school, the use of existing infrastructure and a local management system. The Designing with Nature (DWN) methodology and a well attended public participation process were also part of the design process.

The use of locally available materials in conjunction with labour-intensive construction methods could provide much-needed benefits for the region. According to Eicker (2007, pp. 17) unemployment of the economically active portion of the population in Mangaung Municipality is 40.1%, so the projected nine thousand employment opportunities during construction and one thousand opportunities after construction would provide a welcome boost to the local economy.

3.6 Adapting the concept to local conditions

The New Ruralism concept is a spatial planning model with many principles (and marketing terms) that are similar to those of the New Urbanism concept, except that it is centred on agriculture. New Ruralist developments are typically close to larger urban centres with strong rural-urban linkages and the concept of New Ruralism aims to connect agricultural regions' produce and tourism potential with urban markets.

New Ruralists (similar to New Urbanists) emphasise the need for spatial planning, regional planning and institutional involvement in order to change rural policies to become more favourable to rural development. Some of the strategies that may be suitable to the South African context are:

1. The development of rural communities close to urban areas and the creation of sustainable livelihoods for these communities, while enhancing the agricultural capacity together with educational facilities. South Africa is littered with forgotten hamlets and villages that were placed between twenty and fifty kilometres outside of existing towns and cities by Apartheid planners. Small settlements like Kurland, Zoar and Thornhill are just some of the typical examples where people were "dumped" with very little opportunity for employment, education or development.

2. Making the primary land use of these developments agriculture or open space provides opportunities for rural and urban areas and it promotes the urban-rural linkages that are so important. Food security, agri-tourism, biodiversity, the environment, education and employment are just some of the advantages provided by agriculture close to towns or cities.

3. By establishing effective urban-rural linkages, various opportunities can be created for urban and rural communities. This is especially effective if projects are positioned close to existing transit stops or infrastructure. Local processing, "buy local"

campaigns, farmers markets and community-supported agriculture are excellent tools, together with effective communication networks.

4. By not making New Ruralism hamlets closed towns, they can contribute greatly to the abovementioned opportunities. By welcoming the public, day visits from towns and cities will increase and it would make these communities more inclusive and result in a much more vibrant character.

5. All rural developments should form part of a larger regional plan. No development can exist in isolation and this is especially true in rural areas that are so intimately connected to the land. “However, regional policies alone will neither succeed in transforming the lives of the poor nor eradicate rural-urban inequalities. Regional, economic and spatial policies need to be part of general national development programmes to reduce poverty through different sectoral strategies, such as land redistribution, improved access to credit, health and education, amongst others.” (United Nations, 2001, pp. 87)

6. The provision of multiple cores or clusters means higher densities in contained areas, which means that much more space is available for farming or preservation.

7. The combination of experienced farmers with upcoming farmers (or previously disadvantaged farmers or farm labourers in South Africa’s case) can provide much-needed vitality in rural areas, contribute to skills building and result in improved stewardship of the land.

8. Re-using and maintaining existing amenities, buildings and infrastructure can enhance the specific sense of place, while also saving resources and encouraging additional investment.

9. The preservation and promotion of land, either in its natural form or as farmland can contribute to agri-tourism or eco-tourism initiatives.

10. The implementation of rural smart growth strategies can assist in the improvement of regional planning strategies.

11. Use-value and split-rate taxation, tax rebates for farmland and conservation areas, carbon credits for open space and carbon trading are all potential tools that can be investigated.

12. Renewable energy development in conjunction with agricultural practices can be of great benefit to the environment and it can also have economic benefits.

3.7 Conclusion

Langdon (2009, pp. 2), as a supporter of the New Ruralism concept, feels that: "The nation appears to be on the cusp of a more satisfying relationship to food production. New Urbanism, thanks to a varied crew of innovators, is part of a much needed vanguard." The New Ruralism concept does seem to have many potential benefits, as shown in this chapter. However, being primarily a spatial planning model, the New Ruralism framework will have to be coupled with a range of social, economic and institutional tools in order to contribute meaningfully to rural development. Creating pleasant hamlets on farms close to urban areas without addressing the deeper socio-economic concerns of the particular surrounding areas will not deal with some of the fundamental challenges highlighted in the following chapter.

Chapter 4: Sustainable rural development

4.1 Defining sustainable development and rural development

One of the most appropriate starting points to define sustainable development is arguably the Brundlandt Report, which calls for "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Gutberlet (1999, pp. 223) describes it as "…the adequate management, use and protection of natural resources, guaranteeing the livelihood of humanity. According to prominent international conservation agencies (IUCN 1980), sustainable utilisation is based on a rate of resource use which equals, or is less than, the rate of renewal, restoration or replenishment."

"We threaten nature and nature now threatens us in return: Sunlight causes cancer, air threatens our lungs, rain burns the trees, streams are polluted and soils are toxic. Understanding the qualities of nature in each place, expressing it in the design of communities, integrating it within our towns and respecting its balance are critical to making the human place sustainable and spiritually nourishing." (Katz, 1994, pp. xiii)

The Integrated Sustainable Rural Development Strategy (ISRDS) of South Africa states that there isn't agreement on the actual meaning of rural or rural populations. This view is confirmed by the Ministry of Rural Development and Land Reform in the Comprehensive Rural Development Programme (2009, pp. 8), and the fact that the areas and populations generally accepted as being rural are not homogenous: "For example, most concepts of rural areas and populations include commercial farmers, subsistence farmers, some small towns and villages, and nature reserves that have very different – and even contradictory – functions and developmental needs. In South Africa these differences have been complicated by past policies of racial segregation and especially the creation of independent and self-governing homelands that have reinforced some existing divisions and blurred others." (Independent Development Trust, 2000, pp. 9)

Patel (2010, pp. 3) cites the definition of the United Nations Development Programme (2010): "'Rural' and 'urban' areas are often conceptualised in opposing terms to each other. Population density and economic activity are the predominant criteria that have been used to define 'urban' versus 'rural' areas. However, related criteria such as administrative functions and infrastructure development are also used. Rural areas are generally regarded as places of low population densities with predominantly agricultural economies whereas 'urban' areas are regarded as places with high population densities distinguished by a service economy. Hence small towns with even a minimum of 'urban' characteristics are regarded as urban."

The ISRDS goes on to define rural development as "…multi-dimensional and much broader than poverty alleviation through social programmes and transfers. It places emphasis on changing environments to enable poor people to earn more, invest in themselves and their communities and contribute toward maintenance of key infrastructure; a successful strategy will make people less poor, rather than more comfortable in their poverty." (Independent Development Trust, 2000, pp. viii) The Comprehensive Rural Development Programme (Ministry of Rural Development and Land Reform, 2009, pp. 4) has a similar view where "Rural development is about enabling rural people to take control of their destiny, thereby dealing effectively with rural poverty through the optimal use and management of natural resources. It is a participatory process through which rural people learn over time, through their own experiences and initiatives, how to adapt their indigenous knowledge to their changing world."

4.2 The South African context

The current spatial (and socio-economic) structures in rural South Africa today are still largely the result of Apartheid planning policies that were enforced prior to the advent of democracy. These include the Group areas act of 1950, the Promotion of Bantu Homelands Citizens Act of 1970 and the policies and laws instituted under "Grand Apartheid". These policies had implications in terms of the ownership and

occupation of land (which was naturally racially biased), in forced removals and the large-scale resettlement of people in undeveloped (mainly rural) areas based on their specific tribal or racial grouping, and farm labourers were relocated on a similar basis. Besides the former homelands, there are numerous small settlements scattered beyond the outskirts of urban areas far removed from services and opportunities. Industrial decentralisation in the 1970s had an influence on rural development, while policy changes in the 1980s and 1990s resulted in increased urbanisation, especially by the rural poor. (Kole, 2004, pp. 3) Although some of these policies were supported by spatial plans, Harrison and Todes (2001, pp. 66) state that spatial planning did not play a major role in the creation of the current rural landscape.

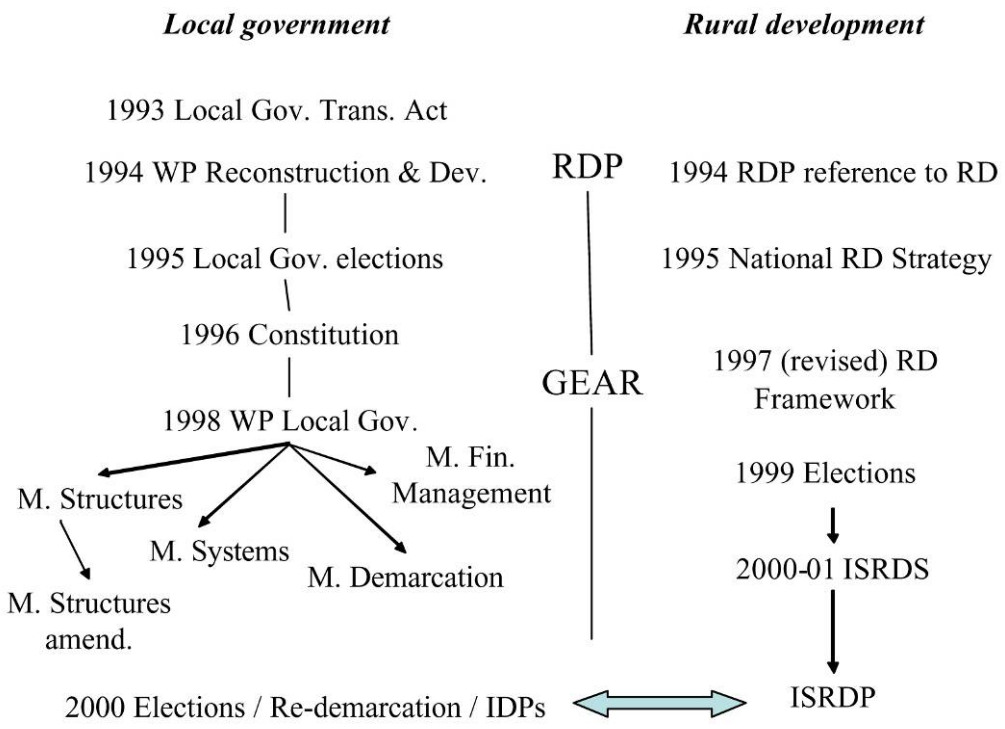


Figure 20: The chronology of the development of local government and rural development in South Africa shown from the beginning of democracy up to 2006. (Perret, 2006, pp. 2)

Rural development policies implemented since the 1994 elections were mainly aimed at the improvement of livelihoods of the rural poor, the restructuring of ownership and access to land. Perret (2006, pp. 1) argues that these policies

followed two parallel but separate streams: That of the strengthening of local government as part of decentralisation, and that of rural development. They are only now beginning to converge through the attempted integration of the Integrated Sustainable Rural Development Programme (ISRDP) and the Integrated Development Plans (IDPs) of local municipalities.

When it was adopted, the ISRDP was the last in a long line of rural development documents, but the first promising document in the series since the advent of democracy was arguably the National Rural Development Strategy of 1995. While it considered elements of the Reconstruction and Development Programme (RDP), Perret (2006, pp. 4) feels that it did not take local government issues into account and "Also, it did not address the key issue of the actual potential of rural economy, in areas left under-developed by the previous apartheid regime. Finally, it mixed up since the outset two approaches, on the one hand a right-based, gap-filling, supply-driven, and welfarist approach to development, and on the other hand, an approach based upon productivity, economic efficiency, and cost recovery." The next document was a revised Rural Development Framework in 1997 that was RDP-driven until RDP was replaced with the Growth, Employment and Redistribution Programme (GEAR), after which it fell under the Department of Land Affairs. This was followed by the Integrated Sustainable Rural Development Strategy (ISRDS) in 2000-2001. The ISRDS took local IDPs and local government into account, while focusing on the district level, and some of its key elements are rural development, sustainability, integration, rural growth, the integration with existing programmes and rural safety nets. "The vision of the ISRDS [is] to attain socially cohesive and stable communities with viable institutions, sustainable economies and universal access to social amenities, able to attract skilled and knowledgeable people, equipped to contribute to their own and the nation's growth and development." (Independent Development Trust, 2000, pp. 23) The ISRDS was subsequently turned into the Integrated Sustainable Rural Development Programme (ISRDP) to focus more on implementation.

According to Perret (2004, pp. 4) it is essentially a spatial development framework that attempts to address environmental, as well as social and economical issues and although it focuses mainly on 13 specific nodes throughout the country (none of which are close to Crossways Farm Village) it may still influence general governmental decision-making. Some potential challenges with the programme are the shortage of skills at local municipal level, the lack of active civil society in rural areas and the difficulties of public participation in rural areas (distance, transport, and a lack of participation by females, younger people and the elderly). While agriculture is usually seen as the answer to development in rural areas, rural people usually do not see it as the answer to their problems. Changes to subsidies and tax breaks, a reduction in government support, a more open market and better information meant a big reduction of farm labour without a decline in output. (Independent Development Trust, 2000, pp. 18) Added to this is the global restructuring of farming and food distribution that started in the 1970s and also led to agriculture job losses and an increase in rural landlessness. (Gutberlet, 1999, pp. 226)

Harrison and Todes (2001, pp. 65) expect to see an increase in the role that spatial planning will play on a regional level as part of the compulsory Integrated Development Plans that are required from local municipalities, although they are under no illusion of the challenges that may be encountered to implement these plans. They are also of the opinion that not much progress has been made since 1994 to rectify unequal distribution in rural areas. The continuation of current unequal distribution in rural areas is one of the reasons that led to the formation of the new Department of Rural Development and Land Reform (DRDLR) and one of the department's primary strategies is the Comprehensive Rural Development Programme (CRDP). The CRDP's development was informed by the Rural Development Framework, the Constitution, the RDP, GEAR and the Medium Term Strategic Framework (MTSF) for 2009 to 2014 in conjunction with various other national and provincial programmes. Its three primary strategies are agrarian transformation, rural development and land reform – the intention is that these will be used to create vibrant rural communities by reducing poverty and increasing food

security through the optimisation of natural resources. (Ministry of Rural Development and Land Reform, 2009, pp. 4)

Agrarian transformation in terms of the CRDP is concerned mainly with the facilitation of business development, rural community empowerment, addressing environmental vulnerability of the rural poor, the increase of sustainable livestock and crop production, improvement of rural livelihoods, food security and quality of life with the use of appropriate knowledge and technologies. Rural development can take the form of physical infrastructure and social infrastructure while land reform deals with restitution, tenure reform and redistribution. In line with Harrison and Todes' expectations, the CRDP also lists the role that spatial planners can play to assist with social and technical facilitation of the programme. While the CRDP has been implemented at twenty-one sites throughout the country to date, the aim is to include hundred and sixty sites by 2014. (Ministry of Rural Development and Land Reform, 2010, pp. 3) It has also absorbed the nodes that were originally identified by the Integrated Sustainable Rural Development Programme (ISRDP). However, it does seem that different government departments and levels of government do not mention the strategies of other departments in much of their documentation. The CRDP is not mentioned in the Eastern Cape Rural Development Strategy of 2010, while the former ISRDS and ISRDP are not mentioned in most CRDP documents. This may be due to overlapping preparation and publication dates, but it is hoped that the new Department of Rural Development and Land Reform will take ownership of all the previous programmes and policies to create one holistic vision for future rural development.

4.3 Urban and rural linkages

IIED (2003, pp.1) argues along the same lines as Ebenezer Howard and the New Ruralists that urban and rural development are usually planned separately. This artificial division exists despite the flows from rural to urban areas that include agricultural and other products, the flows from urban to rural areas that include services and products, the flow of people in both directions, the flow of information

in both directions and the financial flows in both directions. This is most evident in smaller rural centres close to urban areas and The World Urban Forum (2002, pp. 2) mentions the emergence of an “Urban archipelago economy”. Duany Plater-Zyberk and Company (2002, pp. AB3) agrees that rural areas are currently under pressure, but that areas on the urban periphery represent an opportunity: “Development of the rural edge is usually contested politically. Within these sectors, half of all entitlements and permits take place. Most regional plans attempt to direct this urban pressure well before the location becomes critical. The rural edge should provide the setting for new, compact towns and villages.” This statement is echoed by the United Nations Human Settlements Programme (2008, pp. 217), which mentions the emergence of high-density rural villages called “desakotas”or “city villages”, which are found mainly in East and Southeast Asia. Similar trends in Latin America show growth outside the urban perimeter in rural hotspots that are referred to as “urban archipelagos”.

The United Nations (2001, pp. 86) mentions that the traditional boundaries between rural and urban areas are becoming increasingly blurred on a physical and occupational level and it recommends that they should be treated as unified development spaces. On the rural side most farmers and producers of products in rural areas supply demand in urban centres while rural producers are dependent on urban services, markets, supplies, products and credit. Urban centres provide rural areas with most of their retail products, services like healthcare and education and communications infrastructure, while also providing employment for many people from rural areas; this often results in a flow of money, skills and knowledge from urban workers to their families in rural areas. On the urban side many urban dwellers are partly dependent on rural areas for their livelihoods, urban products are consumed in rural areas, while many processing and packaging plants in urban areas are dependent on rural produce. Urban areas also draw on rural areas for their labour force, while urban boundaries sometimes encompass large rural areas. The United Nations Human Settlements Programme (2008, pp. 217) refers to this as the porous rural-urban interface.

"In this reciprocal relationship, urban markets provide a powerful incentive for increased rural production, while expanding rural markets provide an equally powerful incentive for increased production of goods manufactured in urban areas." (World Urban Forum, 2002, pp. 4) "Synergy between agricultural production and urban-based enterprises is often key to the development of more vibrant local economies and to less unequal and more 'pro-poor' regional economic growth." (IIED, 2003, pp. 2) Mutizwa-Mangiza (1999, pp. 4) mentions that rural-urban linkages are usually divided into five categories: Economic linkages, service linkages, demographic linkages, environmental linkages and infrastructural linkages.

RURAL >>	RURAL-URBAN INTERDEPENDENCIES	<< URBAN
Livelihoods drawn from crop cultivation, livestock, forestry or fishing (i.e. key for livelihood is access to natural capital)	<< **Funding flows** (remittances) from urban migrants for rural development.	**Livelihoods** drawn from labour markets within non-agricultural production or making/selling goods or services
Access to land for housing and building materials not generally a problem	>> **Rural-urban food transfers**, rural support in bringing up urban dwellers' children	**Access to land for housing** very difficult; housing and land markets highly commercialized
More distant from government as regulator and provider of services	<< **Accommodation** and support for family or fellow villagers who come to urban areas to study or seek employment	**More vulnerable to 'bad' governance**
Access to infrastructure and services limited (largely because of distance, low density and limited capacity to pay?)	>> **Cheaper accommodation** for low-income urban workers in nearby rural areas	**Access to infrastructure and services** difficult for low-income groups because of high prices, illegal nature of their homes (for many) and poor governance
Fewer opportunities for earning cash; more for self-provisioning. Greater reliance on favourable weather conditions.	<< **Access to** different branches of **government and public services**	**Greater reliance on cash** for access to food, water, sanitation, employment, garbage disposal, etc.
Access to natural capital as the key asset and basis for livelihood	>> **Access to customary** institutions	**Greater reliance on house as an economic resource** (space for production, access to income-earning opportunities; asset and income-earner for owners – including de facto owners)
	<< Stimulus for more **diversified livelihood** options	
	>> **Rural markets** for urban dwellers who derive an income from selling goods and services	
	<< **Information** about urban opportunities and alternative/ additional income sources to potential migrants and commuters.	
	>> **Seasonal employment** for urban dwellers in agriculture or rural development projects or on collecting or purchasing resources from nearby rural areas	
	>> Support to protect the assets of urban dwellers retaining **land and livestock** in rural areas	
	<< **Urban refuge** for some of the poorest rural dwellers whose livelihoods were destroyed by development projects, wars, oppression or disasters	
	>> **Rural refuge** for poor urban dwellers in times of economic and political hardship	
Urban characteristics in rural locations, including: prosperous tourist areas, mining areas, areas with high value crops and many local multiplier links, rural areas with diverse non-agricultural production and strong links to cities.	Many of these interdependencies tend to intensify in emerging landscapes such as: • Peri-urban (PU) areas • Clusters and networks of villages and small and medium size towns and cities • Ruralopolises • Extended metropolitan regions	Rural characteristics in urban locations (urban agriculture, 'village' enclaves, access to land for housing through non-monetary traditional forms, etc.)

Figure 21: Poverty and the rural-urban continuum. (United Nations Human Settlements Programme, 2008, pp. 223)

"Design must preserve the proximate relationships between urbanised areas and both agricultural and natural lands in order to provide for local food sources; maintain local watersheds and a clean and ready water supply; preserve clean air;

allow access to local natural resources; conserve natural habitat; and guard regional biodiversity." (Duany, Speck & Lydon, 2010, App. A)

The World Urban Forum (2002, pp. 2) identifies some emerging trends that may impact these relationships between urban and rural areas: Globalisation, the increased occurrence of urban agriculture, "return migration" where retrenched urban dwellers return to the rural areas where they came from and also the "ruralisation" of urban employment where seasonal farm labourers live in urban areas when they are not contracted. The United Nations Human Settlements Programme (2008, pp. 219) lists a range of migratory flow patterns other than rural-urban migration: Rural-rural migration, urban-rural migration, circular migration, step-wise migration (commuting from shared dwellings outside urban areas), straddling (keeping one foot in urban areas and one foot in rural areas) and commuting from rural to urban areas.

Because of improved infrastructure and communications networks, people in rural areas are becoming increasingly urbanised without actually moving to urban centres and the World Urban Forum (2002, pp. 5) mentions that this can also affect the behavioural patterns of people in rural areas. The combined approach between rural and urban areas should take place on a regional level, but very importantly it has to be appropriate to each specific context. Something that is also not always taken into account is the fact that the boundaries between rural and urban can often be quite ambiguous: "Production systems and chains are not so much a bridge over a rural-urban divide as a complex web of connections in a landscape where many places are neither "urban" nor "rural", but have features of both. This is especially so in areas around urban centres or along the roads out of such centres." (IIED, 2003, pp. 2)

The World Urban Forum (2002, pp. 7) mentions specific actions that are identified by the Habitat Agenda, which was produced as part of the United Nations Conference of Human Settlements in Istanbul in 1996: These are to encourage the sustainable development of rural settlements, combining better technology and suitable traditional practices in rural developments, to implement appropriate policies for

rural development, to provide rural employment opportunities and to foster effective rural-urban linkages. The United Nations Human Settlements Programme (2008, pp. 221) recommends planning on a regional scale to deal with rural-urban pressures and flows; it lists several key focus areas to strengthen the linkages between urban and rural areas as mobility, agricultural and non-agricultural production, trade and commodities, and natural resources and wastes. "There is now a considerable and expanding body of evidence supporting the notion that rural-urban interactions can result in harmonious regional development outcomes. However, unless carefully managed, rural-urban linkages can also increase the vulnerability of the urban and rural poor. The increasing interdependency of urban and rural systems is not only spawning new forms of urbanisation but also new rural-urban coping strategies to avoid poverty and to reduce poor communities' vulnerability to socio-economic, environmental and political shocks and stress." (United Nations Human Settlements Programme, 2008, pp. 223)

4.4 Sustainable agriculture

Wartzmann (2007, pp. 1) defines sustainable agriculture as "…cultivating food in a way that, without sacrificing profitability, promotes environmental health and socio-economic equity." Bowler (2002, pp. 205) has a similar viewpoint when he says that the three legs of sustainability namely environmental, economic and social aspects, can all be applied to agriculture. Environmentally, he mentions the enhancement of biodiversity, the recycling of agricultural wastes and the improvement of soil and water. On the economic side he mentions the provision of goods and services to rural communities, the economic growth of farms, rural economies and farmers/farm workers; while on the social side he lists the maintenance of rural populations, the quality of life, the equitable distribution of economic benefits and skills building.

According to Salamini (2000, pp. 59), food production will not be able to supply the demand in developing countries by the year 2020; the required demand will mean increasing the production of cereals by 41%, meat by 63% and roots/tubers by 40%

and this is despite the fact that approximately 24 percent of the planet's surface is already taken up by agricultural systems (Millennium Ecosystem Assessment, 2005, pp. 18). The environmental costs of attempts to meet these targets will be substantial. The increased use of fertilisers, soil erosion (which again results in reduced production), soil degradation, a lack of water, climate change, the loss of biodiversity and increased poverty in rural areas will all have long term impacts on the ecology and these will be due in a large part to unsustainable agricultural practices. Bowler (2002, pp. 206) describes some of the prime causes of the widespread occurrence of unsustainable farming practices as the so-called modernisation of farming practices (which consists mainly of more intensive agricultural inputs or "intensification", the acquisition of smaller farms by larger corporate farms or "concentration" and "specialisation" that result in monocropping), a more industrialised distribution and marketing system (that goes hand-in-hand with globalisation) and government support for these practices. He mentions three new approaches that can be implemented to promote more sustainable forms of agriculture. These are the production of environmental goods, the use of integrated farming systems and alternative farming practices:

1. As far as the production of environmental goods is concerned, he recommends three approaches: "Extensification", which is a reduction of agricultural inputs like fertilisers and chemicals and a reduction in the concentration of farm animals, improved regulations (for instance rules that govern codes of conduct for farmers, the penalties for non-compliance and the granting of permits for actions that may be detrimental to the environment) and finally sustainable policy measures that can take the form of government subsidies for environmental services. Salamini (2000, pp. 64) also mentions the importance of government policy to improve farming practices, especially in the fields of water management, land and resource property rights, opportunities and subsidies for low-income farmers, energy management and rural infrastructure.
2. Integrated Farming Systems (IFS) is the integration of more sustainable agricultural practices into existing farms; this includes Integrated Crop

Management (ICM), Integrated Livestock Management (ILM), Integrated Pest Management (IPM) and Agro-forestry (AF). Practices like rotating crops, the biological treatment of pests and diseases to reduce the use of chemicals, the advancement of biodiversity to also provide habitats for natural predators, using natural inputs to reduce the use of fertilisers, the prevention of soil erosion, water management, the use of winter cover-cropping and contour ploughing are all tools that can be implemented as a third option other than conventional or alternative agricultures.

3. "Alternative agricultures cover a range of philosophies on sustainable farming, including ecological, biodynamic, humus, low external input, permaculture, biological, resource-conserving and regenerative systems. In more detail, the following range of principles is advanced: The holism of a farming system; a return to natural crop-based (protein) diets so as to remove the inefficiencies associated with feeding cereals to livestock for intensive meat and milk production; a reduction in the fossil fuel inputs to farming (e.g. as inorganic fertilisers, agri-chemicals or diesel for engine power); a return to polyculture; a return to national and regional self-reliance in food production; the maintenance of smaller farming units; the absence of inorganic fertilisers and agri-chemicals; multifunctional land use; minimum soil cultivation; the reintegration of crop and grass-based livestock farming; crop rotations; organic manures; nutrient recycling; low energy inputs; and biological pest and disease control. Together the principles offer a challenge to most of the features of the industrial model of productivist agricultural development." (Bowler, 2002, pp. 209) Salamini (2000, pp. 63) confirms most of these principles, including the use of natural manures, the recycling of wastes, improved management of the use of fertilisers and increased protein levels in diets. Added to this is the prevention of soil erosion, the increased use of natural pesticides, more radical scientific farming systems that can contribute to the sustainability of farming practices and the selective use of biotechnology.

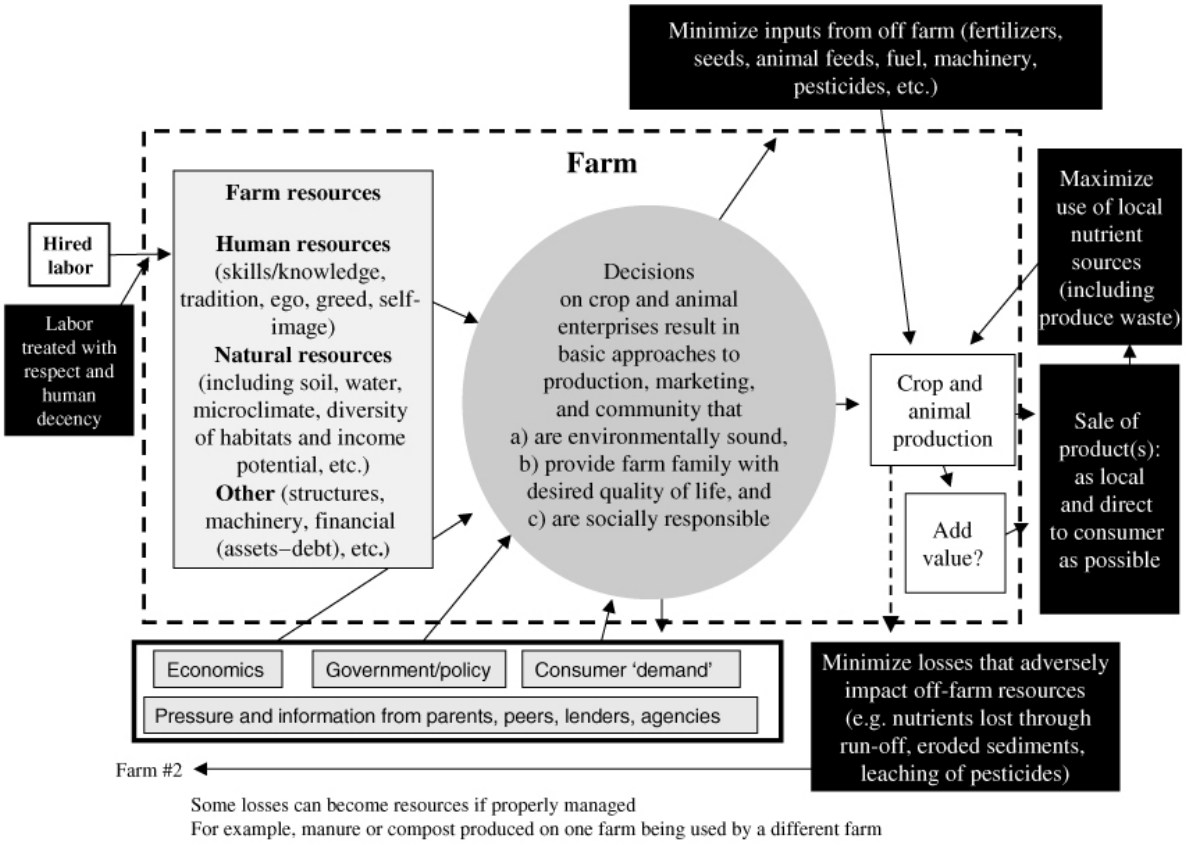


Figure 22: Factors that influence sustainable agriculture. (Magdoff, 2007, pp. 113)

In addition to the abovementioned approaches, Salamini (2000, pp. 61) also mentions the need for additional knowledge and research in the form of global agronomic information systems: "More research is needed on plant diversity to improve our understanding of the following: The positive and negative effects of monocultures, to asses rates of loss of nutrients, or their accumulation in agro-ecosystems; to understand yield decline in long-term intensive agricultural cultivation and the reasons for such declines; to describe the complexity of the relationships between soil quality and cropping system performance; and to identify critical thresholds for soil properties that have the greatest influence on productivity, such as levels of soil salinisation."

The CBD (2008, pp. 48) argues that there can be no food security without biodiversity and that "If humanity can create sustainable agricultural systems, preserving biodiversity and ecosystem services globally, we can feed the world and

ensure resources for future generations. If we fail in this collective challenge, environmental security and human wellbeing will be in peril."

4.5 Biodiversity and ecosystem services

Cape Nature (Undated, pp. 1) states that "Biodiversity is the sum total of all living things on earth, from genes to species to entire ecosystems." The Convention on Biological Diversity (2008, pp. 6) has a more detailed definition that describes biodiversity as "...the variability among living organisms and the ecological complexes of which they are part, including diversity within species (genetic diversity), between species, and of ecosystems."

Biodiversity is the basis of agriculture and it provides the ecosystem services that are necessary for its existence, while agriculture in turn can also contribute to biodiversity and ecosystem services. These ecosystem services (ie. the services and benefits that ecosystems provide) can be categorised as **provisioning services** like food, water and fuel, **regulating services** like pollination, natural pest control and water purification, **cultural services** like recreation and aesthetic value and **supporting services** that include the provision of habitats, food, oxygen and water cycling. They can directly influence human well-being and the Millennium Ecosystem Assessment (2005, pp. 19) relates ecosystem services to the basic material needs for a decent quality of life, health, good social relations, security and freedom of choice or action.

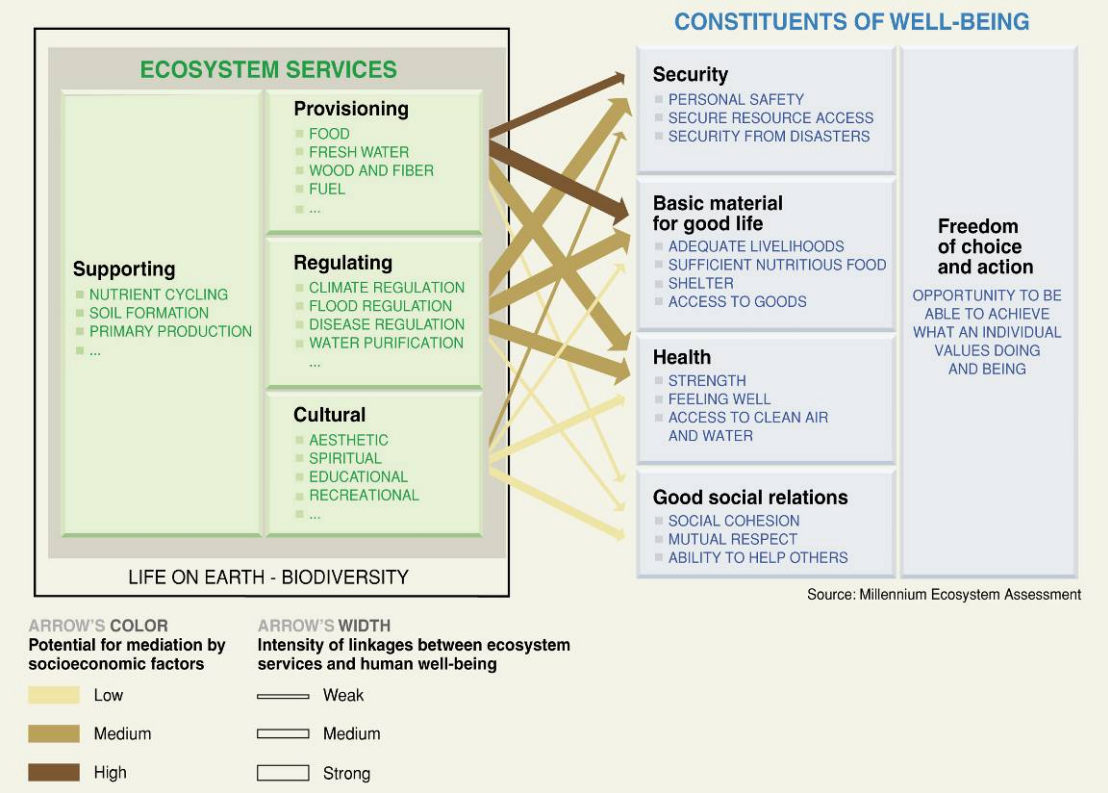


Figure 23: The links between ecosystem services and human well-being. (MEA, 2005, pp. 19)

Agricultural biodiversity that encompasses all three levels of biodiversity (but is related to food production) can support agro-ecosystems despite the fact that agriculture is one of main reasons for the loss of biodiversity. Intensive livestock production and traditional high-yield crop production that's based on monocropping, the use of high-yield or hybrid crops, high inputs of inorganic fertilisers, the chemical treatment of pests and disease and the large-scale replacement of natural habitats are some of the primary causes of biodiversity loss. To counteract this trend, the CBD (2008, pp. 16) suggests some potential ways for agriculture to promote biodiversity:

1. Making farming a provider of ecosystem services that can contribute to wider ecosystems. This can be done through erosion control, moisture retention, the removal of wastes, pollination, water treatment and carbon sequestration.
2. Farming practices can provide incentives to preserve pockets of natural habitats like hedgerows to house pollinators or natural pest control species. However, these pockets have to be linked in order for them to be effective.

3. The provision of ecological knowledge; according to the FAO most of the knowledge gained on biodiversity or ecosystem services has been provided by agricultural practices.

Cape Nature (Undated, pp. 2) makes similar suggestions when it calls for more sustainable farm planning where larger pieces of natural habitat are maintained, and that these natural areas do not have excessively irregular shapes that can amplify edge effects. In addition they suggest that natural corridors are provided to allow for plant and animal movement, and that natural habitats are preserved in networks so that fragments of these areas are fairly close to one another.

"However, the Earth's biodiversity is being lost at an alarming rate, putting in jeopardy the sustainability of ecosystem services and agriculture, and their ability to adapt to changing conditions. The conservation and sustainable use of biodiversity is essential for the future of agriculture and humanity. At the same time, since agricultural lands extend across such a considerable proportion of the Earth's surface and harbour significant biodiversity, the conservation of biodiversity within agricultural landscapes must play an important part in global conservation strategies." (CBD, 2008, pp. 7)

4.6 Food security

According to the United Nations Environment Programme (UNEP) and the United Nations Conference on Trade and Development (UNCTAD), the number of hungry people in Sub-Saharan Africa increased by twenty percent between 1990 and 2008 to approximately two hundred million; this is despite the fact that modern agricultural processes have increased the global production of food significantly in recent years (UNEP & UNCTAD, 2008, pp. 1). While many feel that increased production is the answer to food insecurity, it is also becoming increasingly evident that the control of food production, the control of food production technology and difficulties related to access to food can counteract any increases in total output. This relates directly to what is referred to as "Entitlement theory" where the unequal distribution of food or the lack of access to food and not the overall lack of sufficient

food can be the root cause of hunger. Other aspects like nutrition and human well-being should also be considered in addition to the basics of food supply and access. The FAO (2003, pp. 29) views food security as a situation in which "…all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life."

UNEP and UNCTAD (2008, pp. 4) list a range of factors that are contributing to the lack of food security in Africa. Problems related to the availability of food can range from a lack of funds to buy food or the inability to produce it, the lack of market access, the lack of access to land, insecure tenure, or inconsistent production throughout the year so people can be hungry periodically. The degradation of the environment and the inability of monocropping farming practices to deal with environmental stresses lead to a reduction of natural capital, while weak social linkages together with a lack of skills or agricultural knowledge lead to a reduction in social capital. The lack of adequate and nutritious food also affects peoples' health negatively and it leads to a vicious cycle since malnourished or undernourished people are also less productive, while the prevalence of HIV/AIDS further compounds the issue. Poor infrastructure provision, a lack of effective governance (which includes corruption) and unrest directly and indirectly influence food security, while climate change and natural disasters pose continual challenges to food production.

UNEP and UNCTAD argue that increased production based on modern farming techniques has not reduced poverty or hunger in developing countries and they suggest that sustainable agriculture may be a tool to improve food security. The basic elements of their proposal are to integrate farming with natural ecological processes, minimising agricultural inputs, using the knowledge and skills of experienced farmers and using the combined skills of communities to address local resource problems.

The South African Constitution mandates the right to food, while the Integrated Food Security Strategy (IFSS) lists a range of strategic objectives to improve food security, such as increased household food production, improved employment opportunities, improved nutrition and food security and better safety nets and emergency strategies. It would then seem that food security is not purely dependent on agricultural or natural sustainability, but on a wider range of factors that involve social and economic sustainability, especially in relation to rural livelihoods and communities. The FAO (2003, pp. 11) confirms this when they state that: "For other households, both rural and urban, access to productive resources may be less relevant. These will seek, according to their location and particular skills, to generate entitlement to food through trade or direct employment. The promotion of income-generating activities, both local employment opportunities and self-employment (particularly those associated with the rural informal sector), forms a second essential approach to food security."

4.7 Land ownership

"The law locks up the man or woman
Who steals the goose from off the common
But leaves the greater villain loose
Who steals the common from off the goose."

(Anonymous, 17th Century English protest poem, Wealth and Want, 2011)

Land reform is a national priority in South Africa that was written into the Constitution of the Republic of South Africa in 1996 and it is aimed at tenure reform, restitution and land distribution. The Integrated Sustainable Rural Development Strategy (ISRDS) cites the unequal ownership and access to land, especially farmland, as one of the most visible legacies of Apartheid's spatial planning policies: "Most of the specific characteristics of rural South Africa are strongly related to the fact that most of the country's rural land is concentrated in the hands of a relatively small and wealthy minority. Detailed analysis has shown that land reform, when conducted in an appropriate manner, will lead to increases in economic, financial, social and

environmental efficiency, equity and sustainability." (Independent Development Trust, 2000, pp. 41). Hall, Isaacs & Saruchera (2007, pp. 4) confirm this when they mention that eighty-seven percent of South Africa was owned by white landowners (private and corporate) in 1994, with thirteen percent being in the former homelands; the goal of land reform is to equalise this disproportionate ownership ratio by implementing the following three tools:

Restitution: A Commission on the Restitution of Land Rights (CRLR) was formed, together with a Land Claims Court, to give land back to people who were unfairly dispossessed or to provide them with alternative compensation. 63 455 land restitution claims were received by the deadline of 31 December 1998 and just over 56 000 had been dealt with by 2004, although almost three quarters of the claims were in urban areas (Hall *et al*, 2007, pp. 4). This is confirmed by Kepe & Cousins (2002, pp. 2). Hall *et al* also note that restitution is mostly not mentioned in local economic development strategies or in IDPs, despite the fact that land reform can be deemed to be classified as Local Economic Development.

Redistribution: This strategy consists mainly of grants provided by the state to enable people to purchase and improve land, sometimes through equity share schemes. This was initially done via a Settlement/Land Acquisition Grant (SLAG), but this has now been replaced by the programme for Land Redistribution for Agricultural Development (LRAD).

Tenure reform: This mainly applies to labourers, farm workers and their dependents who live on (mainly white-owned) farms and whose tenure is legally insecure, despite secure tenure being a basic human right. According to Hall *et al* (2007, pp. 6) almost one million people had been evicted from farms from 1994 to 2007, while Kepe & Cousins (2002, pp. 2) are of the opinion that very little has been achieved in terms of tenure reform.

The ISRDS predicted economic growth in rural areas due to the acquisition of specific portions of land and start-up farming grants, which were also expected to result in

the increased demand for services, increased production, the in-flow of capital from urban areas, increased security and improved land value. Since the ISRDS was formalised into the ISRDP (which is described as an attempt at best practice for integrated rural development planning) it has been criticised for not providing additional resources and only dealing with the coordination of various government departments, because it only focuses on specific nodes instead of suggesting overarching strategies and because it doesn't specifically deal with poverty, but only deals with infrastructure and service delivery (Hall *et al*, 2007, pp. 8). A potential problem with infrastructure and service delivery is that the government is unwilling to invest in improvements on private property, which means that farm dwellers on most commercial farms (and settlements on these farms) can't benefit. Even the provision of services up to farm boundaries is problematic since the unit cost per household in sparsely populated rural areas is too high to be justifiable. Where land is owned by the community, service delivery may be somewhat easier; municipal commonage (as found mostly in the former Cape Colony) may provide an opportunity for economic development although most Municipalities seem to be unaware of the legalities related to commonages. Cousins (2007, pp. 12) also criticises the ISRDP mainly because of the lack of governmental capacity to implement it because it doesn't indicate any key areas for rural growth. Turner (2001, pp. 2) is also doubtful of the ISRDP's effectiveness since it marginalises land reform and it doesn't provide strategies to encourage effective farming strategies for the promotion of rural livelihoods. He argues that appropriate farming practices are a vital tool that needs to be employed in conjunction with land reform

Lahiff, Borras and Kay (2007, pp. 1417) take a more critical stance by saying that market-led agrarian reform (MLAR) can't challenge the power of private land owners in favour of the rural poor; they describe it as a pro-elite/anti-poor strategy. The lack of support for new farmers after land has been transferred results in low productivity, together with the trend that less productive land is sometimes transferred to "unqualified" beneficiaries. Corruption during the transfer process has also been encountered since officials decide on the beneficiaries, while from the side of the land owners, land reform can be perceived as a form of confiscation, which

leads to increased resistance. Lahiff *et al* (2007, pp. 1432) argue that "…the system of 'willing buyer, willing seller' has not only fallen far short of its targets but has effectively postponed the resolution of the land question inherited from colonialism and apartheid, a question that should have been squarely addressed at the moment of political transition, but which is now likely to be addressed under very different circumstances at an unknown date in the future." From a policy point of view, Hall *et al* (2007, pp. 47) recommend better information and communication systems, better coordination between government departments, better guidelines for the development of IDPs and additional research.

The CRDP (Ministry of Rural Development and Land Reform, 2010, pp. 4) echoes Harrison and Todes' previously mentioned view that land reform in South Africa hasn't delivered and has not been sustainable to date – effective support and development is vital and this can be done through mentorship programmes based on skills transfer and joint management by experienced farmers. Cousins (2007, pp. 17) supports this statement by saying that land reform on its own isn't sufficient and that infrastructure, services, training and assistance is vital for it to succeed.

The current land reform strategy and the Land and Agrarian Reform Programme (LARP) aims to redistribute thirty percent of white-owned farmland to previously disadvantaged people, while re-evaluating all the other land reform strategies that have been developed to date. Land reform is to be fast-tracked, together with land tenure reform and restitution, through the effective use of land planning information, and a new Green Paper and Land Tenure Security Bill are proposed by the Department of Rural Development and Land Reform to deal with some of the more pertinent issues. It may be that a new model based on a mixture of the abovementioned strategies could help to address some of the more difficult challenges and to promote the "accumulation from below" both in agriculture and other rural livelihood strategies. "South African experience suggests that rural development cannot be environmentally sustainable without land reform. Nor can land reform be sustainable without adequate provision for environmental care. While government has acted on this second lesson, it needs to do more to address

the first." (Turner, 2001, pp. 4) Kepe & Cousins (2002, pp. 1) share this sentiment when they state that "Sustainable rural development in 21st century South Africa will never be achieved without a radical assault on the structural underpinnings of poverty and inequality inherited from three centuries of oppression and exploitation. A large-scale redistribution of land and resources, accompanied by the securing of tenure rights in practice as well as in law, is required for long-term sustainability."

This link between land reform and sustainability is explored further by Attfield, Hattingh and Matshabaphala (2004, pp. 411): "The basic human right to a livelihood and the ability to support one's family typically (although not invariably) involves access to natural resources such as land and, at that, to land that has not been hopelessly degraded through overgrazing, erosion or industrial pollution. This brings into play another human right, recognised in South Africa's Constitution, the right to a sustainable environment and to sustainable development. Land reform would in many circumstances be the best and sometimes the only way to implement these constitutional rights." They argue that there are conceptual linkages and contingent discontinuities between land reform, sustainable livelihoods and sustainable development.

Unfortunately land reform in South Africa has not been successful to date. The focus on the thirty percent as the only measure of success, has lead to some working farms being taken out of production, with the loss of linked (downstream and upstream) jobs (such as those that serviced farms, including farm workers or industries that were based on farm produce. "Further, since sustainable livelihoods are a necessary condition of sustainable development, including development that is ecologically sustainable, the prospects of such sustainable development are poor if action to inaugurate land reform is not taken." (Attfield, Hattingh & Matshabaphala, 2004, pp. 413)

4.8 Rural livelihoods and poverty alleviation

According to Wiggins (2008, pp. 1), almost half of the global agricultural labour force (which is estimated at 1 100 million people) are hired labour. Temporary employment at this scale means that almost fifty percent of farm workers have very little job security and added to the lack of financial security, farming has other hazards if one takes the number of fatalities of farm workers into account, which is estimated at 170 000 annually. These factors are leading to a rise in multiple employment, especially among poorer workers who are increasingly engaged in other forms of employment when they're not busy farming; this is made possible because of improved rural-urban linkages as mentioned previously. The occurrence of multiple forms of employment is confirmed in South Africa's ISRDS: "Furthermore, because of their poverty and vulnerability, rural households commonly resort to a variety of different strategies to ensure their survival so that it has become more appropriate to describe their economic activities as *livelihood* strategies rather than jobs or employment." (Independent Development Trust, 2000, pp. 9) Cousins (2007, pp. 4) also mentions this trend and lists farming on a variable scale, formal jobs, remittances, welfare (like pensions) and small enterprises as alternative livelihood strategies.

Kepe and Cousins (2002, pp. 1) state that more than seventy percent of South Africa's poor live in rural areas, while more than seventy percent of rural people are considered poor. (Unfortunately no indicators are provided by them to describe the baseline determinants for being considered poor.) Due to government policies prior to the 1994 elections, many rural poor live in dislocated settlements that have a relatively high population density and that are far from employment opportunities with weak rural-urban linkages. Farm workers represent one of the worst-off rural segments. They are usually dependent on farm owners for wages, accommodation, water, electricity, education, health services and transport, while Hall *et al* (2007, pp. 15) mention a reduction in the provision of goods and services by farmers as a direct response to new labour regulations and tenure reform. According to the ISRDS, farm workers' wages are mostly lower than the minimum living wage, while temporary or

seasonal labourers earn about ten percent less than permanent employees. Opportunities for education are also limited and a 1997 survey in South Africa found that fifty percent of black farm workers had no formal education, while forty percent only attended school up to grade two to seven. (Independent Development Trust, 2000, pp. 11) Added to these problems are adjustments made to agricultural subsidies, taxes and changes in export controls that resulted in a reduction in agricultural employment. Hall *et al* (2007, pp. 15) estimate that there are about 800 000 farm workers in South Africa and that they take care of about three million dependents. Despite this, most Municipalities often do not see them as parties requiring support since they are living on privately owned land.

HIV/AIDS has a massive influence on rural livelihoods, where one infected individual can affect the entire household, especially if the most productive member is infected. It usually means that poor households have to shift from wage-earning to subsistence farming and that usually means a deterioration of the quality of life for the entire household. In addition to subsistence farming, the rural poor may be forced to exploit natural resources, which results in environmental degradation, which in turn has a further negative impact on population health. The limited access to health services, welfare and education means the rural poor are being marginalised to the point where Gutberlet (1999, pp. 222) feels they are losing their status as citizens. They are economically, and also spatially and socially, marginalised due to the lack of access to services. She lists a number of factors experienced by the rural poor in a South American case study (and these would arguably be applicable to rural populations in other developing countries, South Africa included): Insecure land tenure, the reduced access to farmland, new pests and weeds due to the prevalence of monoculture farming practices, the inability to get loans, the lack of technical assistance (and where assistance is available it is usually based on “Green revolution” farming practices), limited access to the market and political exclusion. The outflow of skills, labour and capital to urban areas as discussed previously is also a prevailing challenge. Cousins (2007, pp. 6) refers to the marginalised rural poor as the “surplus population” and also mentions that the HIV/AIDS pandemic is exacerbating their already precarious situation. Some possible approaches suggested

are to encourage the domestic farming of nutritious foods, the protection of crops from livestock, the planting of crops with less seasonal peaks and service provision that can encourage cooperation within communities.

Socio- economic characteristics of rural communities in South Africa				
Characteristic	**Former homelands**	**Displaced and resettled communities**	**Commercial farming areas**	**Mining areas**
Population Range	• 500 to 10 000 • Average household size 7	• 3000 to 20000 • Average household size 7	• 10 to 150 • Average household (labourer/tenant) size 7	• 1000 to 15000 • Average household size 7
Settlement type	• Scattered • Homestead • Dense settlements	• Dense settlements	• Villages	• Dense settlements
Amenities	• Shops, Clinics usually distant • Schools, usually distant • Formal and informal dwellings	• Shops, Clinics usually distant • Schools usually distant • Formal dwelling and some in RDP houses	• Shops, Clinics usually distant • Schools usually distant • Commercial schools • Informal and farm accommodation	• Shops, Clinics usually nearby • Schools usually nearby • Formal (Hostels and in some cases houses)
Employment	• Subsistence farming • Unemployment- on excess of 30% • Under-employment 50% • Significant remittances from urban area • Off farm employment negligible	• Commute to urban areas daily, weekly, monthly • Unemployment- 70% • Remittances from Urban areas • Informal sector	• Labourers and tenants for commercial frame	• Labourers (usually from nearby) and artisans (usually from far away)
Average household income	+/-R650	+/-R650	+/-R350 (labourer) +/-R700(tenant)	+/-R900 to +/-R4000

Table 1: Rural socio-economic characteristics in South Africa.
(Independent Development Trust, 2000, pp. 13)

Machethe (2007, pp. 13) states that most analysts believe poverty is mostly a rural problem, and that it can only be eradicated through a combination of public and private initiatives. He adds that the state should remove barriers standing in the way of rural economic development: "In South Africa's rural development context, a developmental (or progressive) state should be one that creates or promotes an environment conducive to development and provides support for entrepreneurs to engage in productive activities that promote growth and development objectives, especially poverty eradication." (Machethe, 2007, pp. 17) He also feels that South Africa does not need to become a developmental state to eradicate poverty (although it may exhibit some traits of a developmental state), but that constructive

engagement with the private sector is the key for rural development. In dealing with rural poverty in South Africa, one should recognise that the country has a dual economy; different strategies may be required for each, while the state would most probably have to play the leading role in developing the "second economy".

On the positive side, the Independent Development Trust (2000, pp. 24) mentions the view that "Rural communities hold a wealth of social capital in the form of extended networks of mutual solidarity, shared beliefs and traditions, and commitments to retain long-standing practices of daily life." Harrison and Todes (2001, pp. 70) also mention the potentially positive trend that the government's attention seems to be shifting towards rural development at a national and provincial level. This can be seen in the "War on poverty", which is a Presidential Special Programme and governmental priority, and according to the Ministry of Rural Development and Land Reform (2010, pp. 8) some of the key priorities of the national government are job creation and sustainable livelihoods, improved access to education, improved access to health, rural development, food security and land reform and a reduction in crime and corruption.

4.9 Conclusion

The complexity of the South African situation as far as rural development goes is evident in the range of different policies and departments that have been developed to address the issues of rural transformation. None have been very successful to date, although the strategies seem to be shifting towards public-private partnerships that focus on livelihoods instead of pure agriculture. An important focus should be on the "in-between" where apparently opposing forces meet: How rural and urban areas are linked, where agriculture and nature/biodiversity intersect, where economic injections benefit impoverished rural populations, and where land ownership is made possible for the landless. The strengthening of the complex links between these supposedly disparate elements are the key to sustainable rural development in South Africa and spatial planning might be one of the enabling tools that can establish the context where these links may be established.

Chapter 5: Case study – Crossways Farm Village

5.1 Introduction

Ebenezer Howard (1902, pp. 15) was of the following opinion: “There are in reality not only, as is so constantly assumed, two alternatives – town life and country life – but a third alternative, in which all the advantages of the most energetic and active town life, with all the beauty and delight of the country, may be secured in perfect combination; and the certainty of being able to live this life will be the magnet which will produce the effect for which we are all striving – the spontaneous movement of the people from our crowded cities to the bosom of our kindly mother earth, at once the source of life, of happiness, of wealth, and of power.”

Figure 24: Crossways Farm Village, artist’s impression of the dam precinct. (CMAI archives, 2009)

There have been a few attempts at creating agricultural estates in South Africa, but they have mostly been based on the type of lifestyle estate model that is typical of a standard golf estate. A few points that make this particular case study of interest is that it is located on a successful existing dairy farm with strong rural-urban linkages, close to a number of impoverished rural villages with a high unemployment rate, while being in an area of great natural beauty. Instead of opting for a standard

subdivisional plan, the developers have decided to use the New Urbanism and New Ruralism frameworks together with a number of sustainable rural development tools in order to generate a new model for sustainable rural development. While there are many challenges to overcome, this case study could form the basis for critical evaluation of these frameworks as it progresses.

5.2 Context

In the current South African context, farms are increasingly becoming larger mass-producing enterprises with typically a smaller (albeit better skilled) workforce. This is leading to increased rural unemployment and urbanization and it also means that agriculture can't be the sole driver of sustainable rural development. Another alternative is needed to create sustainable economic and social development in rural areas, while ensuring the environmental vitality of these regions. The South African government has made rural development one of its priorities and it is implementing various policies to achieve this, but the real test will be to encourage the private sector to invest in these projects.

The site of the proposed Crossways Farm Village is situated on an existing dairy farm of approximately 520 hectares in the Kouga District of the Eastern Cape and it is approximately forty kilometers west of Port Elizabeth. The Kouga District is characterised by a low development and high unemployment rate, with a number of scattered villages that are typical remnants of apartheid policies with their communities far removed from any public transport systems or potential employment opportunities. The village of Thornhill is just one example and it is in close proximity to the proposed development; the area around the two has been denoted as a rural development node and its proximity to Port Elizabeth, Humansdorp, Jeffreys Bay and St. Francis means that the area has many opportunities if the right planning strategies are implemented.

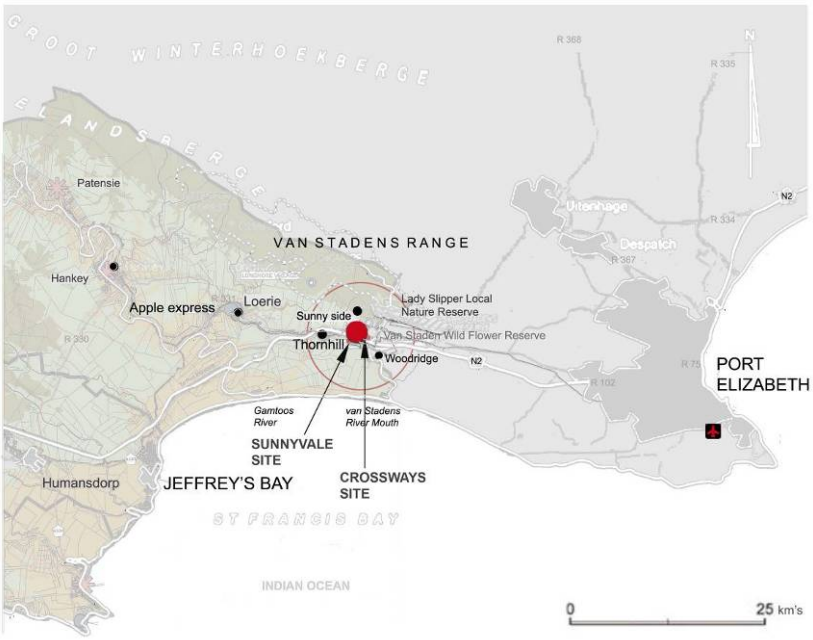


Figure 25: Crossways Farm Village location plan. (CMAI archives, 2010)

Katz (1994, pp. xv) feels that satellite towns close to metropolitan regions should be developed since they are more able to afford things like green areas, transit and affordable housing, while absorbing development that may otherwise have put pressure on metropolitan areas in the form of sprawl. Satellite towns are usually bordered by greenbelts, which together with these towns establish a developmental edge for metropolitan areas, while providing opportunities for rural areas. This can provide increased opportunities for rural communities and South Africa's ISRDS states that "Rural growth takes place in a spatial dimension. Rural towns are critical to the developmental opportunities of their hinterlands. Provision of key services in rural towns increases the multiplier for incremental incomes, since rural people can spend more of it closer to home." The retention of capital in rural areas can mean a major boost for local economies.

While none of the current ISRDP or CRDP nodes are located close to Crossways Farm Village or Thornhill village, a new CRDP is being investigated at present in order to integrate these two communities spatially, socially and economically, together with a wider area of smaller nodes, farms, reserves and institutions.

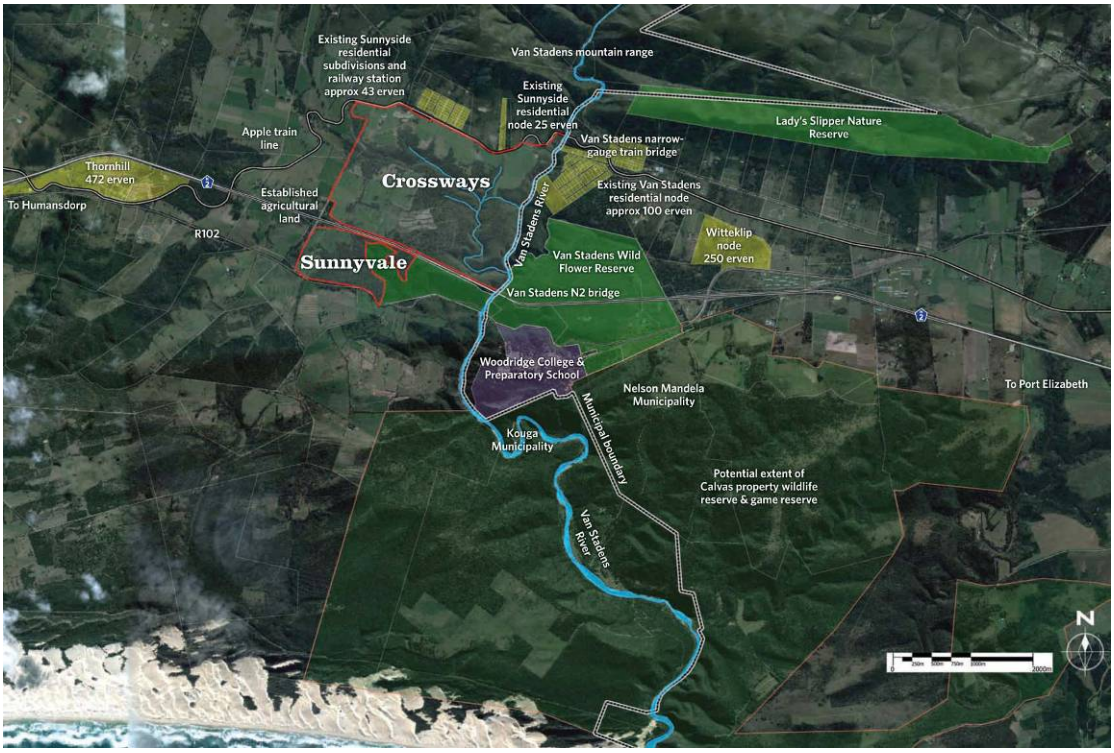


Figure 26: The central area of the proposed CRDP. (CMAI archives, 2011)

5.3 Strategies

Ellis (2002, pp. 265) is of the opinion that "A major goal of growth management and farmland protection efforts is to preserve productive farmlands and sensitive environmental areas that are in close proximity to metropolitan areas, in order to shape a preferred regional landscape, one that includes well-defined towns embedded within working farms and conservation areas." This seems to correspond to the aims of Crossways Farm Village, where the developers are planning to integrate these elements into one project.

The development is based on the principles of the New Urbanism and the New Ruralism frameworks and it will consist of a number of village clusters that include various uses like a commercial area, a light industrial area (which is planned to cater mainly for agri-industries) and various residential clusters. A wide variety of housing types and sizes are planned, from small starter homes or terrace houses on stands of 150m² to large single residential properties and farmsteads similar to smallholdings. The mixed-use nature of the development, with its defined neighbourhood clusters,

is intended to reduce automobile use within the development and encourage walking or cycling. However, similarly to Thesen Islands, many inhabitants will still have to make use of motorised transport to get to their place of employment outside the development – as Gordon (1998, pp. 3) states: “Only by developing a broad mix of land uses can the goals, perhaps a dream, of walking to work and walking to shop be met.” An extensive network of public open spaces, used in conjunction with numerous civic buildings like a community centre, farmers market, sporting facilities, a school and potential campus facilities are indicated on the drawings. Unfortunately an existing station on the property (which is bordered by the railway line that used to accommodate the Apple Express train) has been decommissioned for the time being, so a good opportunity for public transit to Port Elizabeth has been lost, although a community bus service may be able to fulfil this role until such time as the railway lines in this region are rehabilitated. (A reduction in private transport use may mitigate some of the emissions that are common to livestock farming!)

Some of the economic and social infrastructure improvements as mentioned in the CRDPs (Ministry of Rural Development and Land Reform, 2009, pp. 14) that are planned for Crossways Farm Village are roads, a state-of-the-art milking parlour/dairy, community gardens, new fencing, transport infrastructure, communications infrastructure, water harvesting and water shed management, the provision of retail outlets and a post office, a clinic, sporting facilities and a school.

The Designing with Nature (DWN) tool was used to determine the developable portions on the land, so any steep slopes, productive agricultural land, areas affected by noise pollution from the N2, streams, rivers and dams, areas in deep shadow, conservation-worthy land, sensitive vegetation and biodiversity corridors have all been designated as no-go areas, so only the remainder was earmarked for development. This remainder was also planned with extensive public open spaces and low coverage ratios so that the actual area that will be covered by buildings or hard landscaping can be constrained.

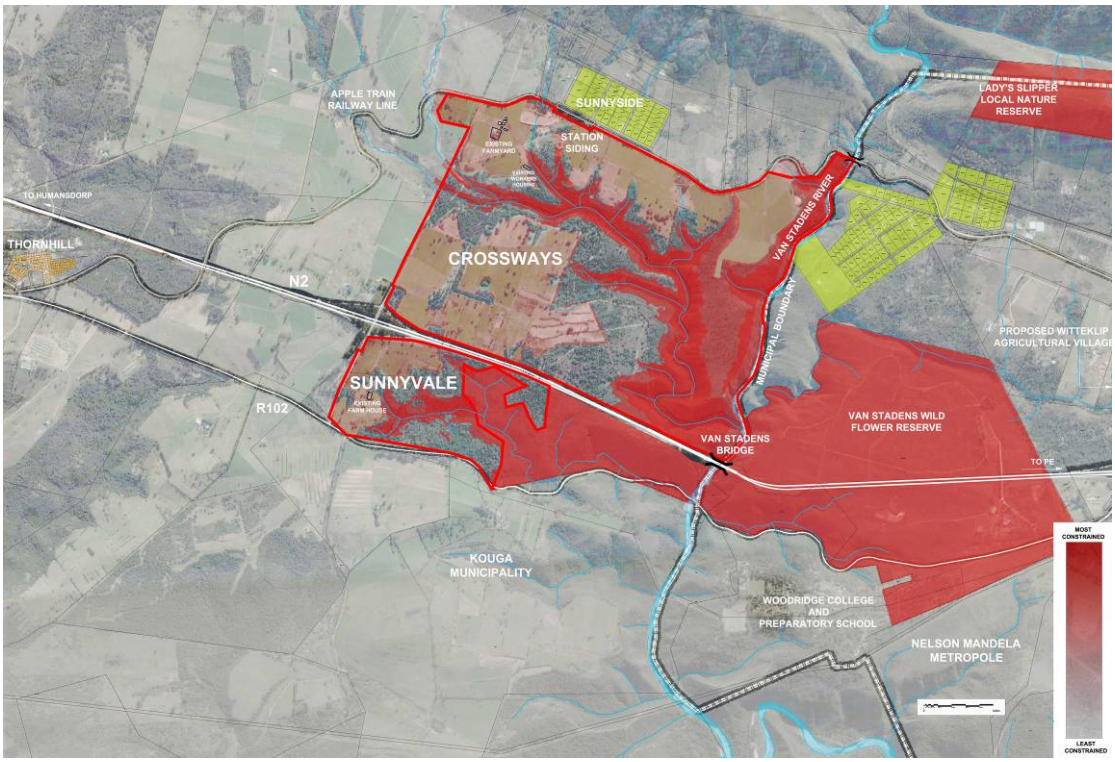


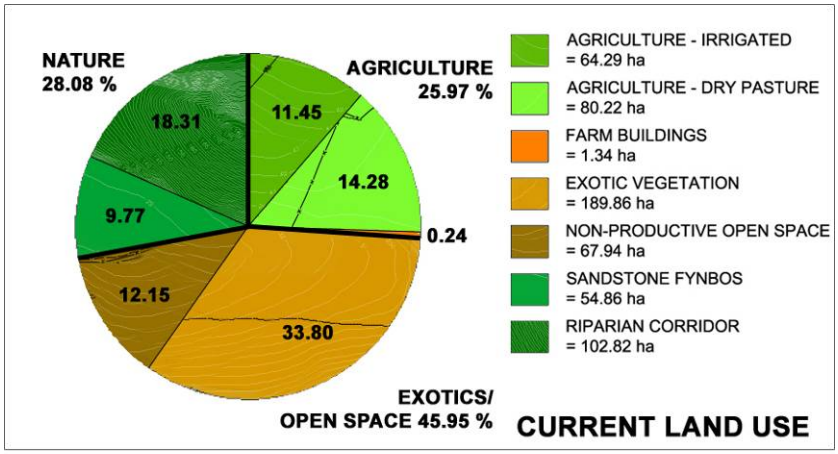
Figure 27: Opportunities & constraints map for Crossways Farm Village. (CMAI archives, 2009)

As can be seen from the images, the DWN opportunities and constraints map translates into the eventual developmental footprint as indicated on the Site Development Plan.

Figure 28: Crossways Farm Village site development plan. (CMAI archives, 2010)

While Ellis (2002, pp. 266) agrees that the New Urbanism's strategies make it easier to conserve sensitive areas, he feels that they don't automatically result in major environmental benefits and that they need to incorporate some form of "green engineering" to make them even more effective. In the light of this, the developers are planning to upgrade and improve the existing dairy farm to incorporate a holistically planned scientifically operated milking parlour, which will include on-site education and training facilities that can contribute to skills building for the wider Tsitsikamma region. Together with the extensively planned crop areas and urban agriculture, it could potentially produce fresh produce for the development and the wider surrounding region. However, the real promise of the development's agricultural component is the ownership model that is being implemented: The farm and farming operations will be jointly and equally owned by the homeowners, the farm management and the farm labourers, and each of these bodies will earn a one-third share of the profits.

Together with the dairy farm's upgrade, a multipurpose centre, and dairy and organic produce market is also planned. Combined with the training facilities and facilities for agri-showcase events, auctions and equestrian events, the project is positioning itself as a regional centre for agricultural activities. The bulk of roadside planting, manicured public areas and parks will be devoted to urban agriculture to tie in with the surrounding farm, while more than a third of the property will be retained for indigenous vegetation. The produce from the urban agriculture areas will be freely available to homeowners and the remainder can be sold at the produce market with profits to be shared. The abovementioned strategies should contribute significantly to local food security and skills building if implemented correctly.



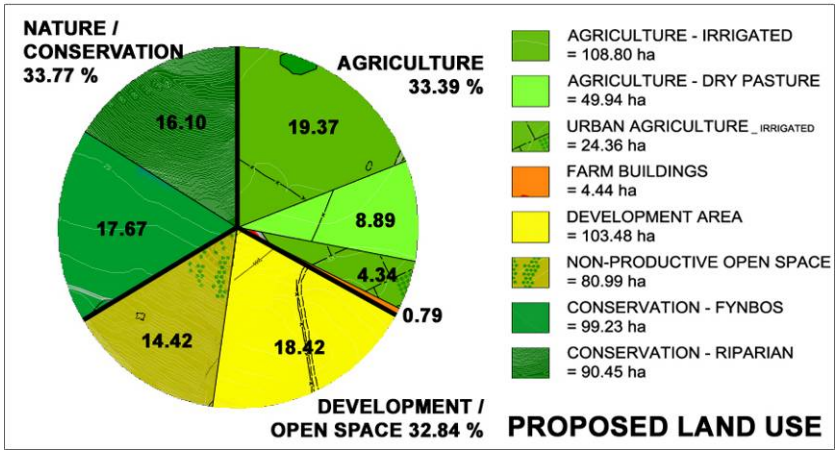


Table 2: Current and proposed land-use on Crossways Farm Village. (CMAI archives, 2009)

All the alien vegetation is currently being systematically cleared so that indigenous planting can be reintroduced; a detailed planting list is being provided to all future homeowners and it regulates the planting of indigenous species or certain agricultural crops. The conservation areas on the property are planned to be incorporated into the adjacent Van Stadens River Gorge and Wild Flower Reserve. The long-term aim of this plan is to establish biodiversity corridors between the Baviaanskloof mountains and the Indian Ocean.

A comprehensive Design Codebook regulates an Architecture based on critical regionalism that reinterprets the types of Architecture typically found in this region of the Eastern Cape to reflect a modern rural lifestyle. The primary guiding principles of the Codebook are based on passive (where the design of a building enables it to be more energy efficient without mechanical intervention) and active measures to make the buildings more sustainable and energy efficient; so orientation, natural ventilation, energy-efficient lightfittings and appliances, and water-saving sanitary fittings are just some of the items that are mentioned. Solar water heating or alternatively the use of heatpumps is compulsory, while rainwater harvesting is

compulsory on all but the smallest properties, and on-site waste separation will be mandated and regulated with a bar-code system. Vermiculture, composting, greywater recycling, wetland pools, the use of local materials, FSC certified timber and non-toxic low-VOC paints are all actively encouraged.

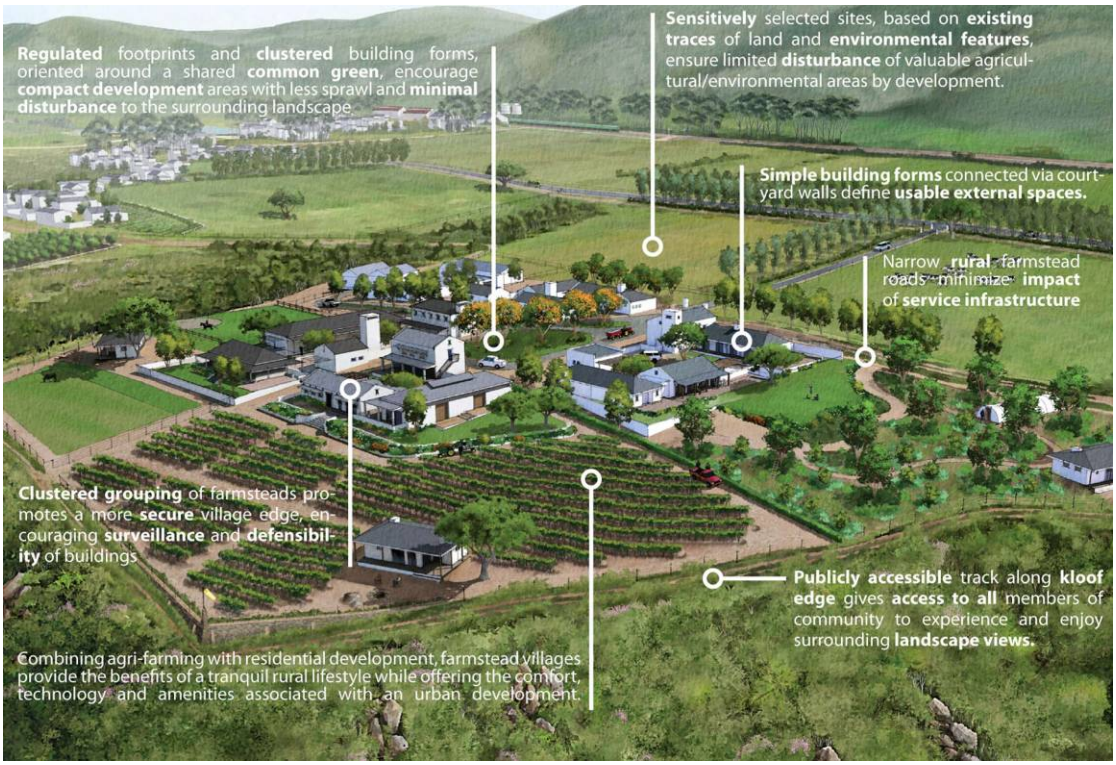


Figure 29: A typical farmstead cluster explained. (CMAI archives, 2011)

A points system and checklist forms part of submissions to the Design Review Panel to ensure prospective homeowners and their consultants use these measures as key drivers for their designs. The Homeowners Association which is currently being established will be the provider of bulk services to the development and it will also regulate and enforce the rules and guidelines that govern the design and construction of buildings. As mentioned in previous chapters, overly strict control of the Architecture could lead to an undesirable level of homogeneity and lack of self-expression or vitality, so it will become apparent over time whether the Homeowners Association allows sufficient leeway for the development to grow naturally as time passes.

All organic waste from the farm, commercial and residential areas will be turned into compost on site, while sewage will be treated in an on-site package plant before being fed through a wetland to be reused for irrigation purposes. In addition to rainwater harvesting on the buildings, an extensive stormwater management plan will be implemented, which will include swales, soakaways, infiltration trenches, infiltration basins, detention basins, retention ponds, wetlands and filter strips.

Various open days and interactive sessions were held with the local communities (especially the people of Thornhill) and the farm labourers to determine what their needs and aspirations are, so a number of strategies have been integrated into the development plan to cater for these. The main concerns raised by the local community are the provision of jobs, the provision of services, especially in Thornhill, and the provision of training. A percentage of every property purchased will be transferred into the Thornhill community trust up to a maximum of R15 million to be used for local community projects, while labour intensive construction practices and the use of the local community for labour is mandated, so all Contractors have to adhere to this. Unfortunately the development is not physically adjacent to, or connected to, the village of Thornhill (except via transportation links), which is one of the basic charges against neo-traditional urban developments that Ford (1999, pp. 252) mentions when he states that most large New Urbanist projects are physically disconnected from existing urban fabrics or communities.

The training facilities as mentioned previously should assist in the development of local skilled labour, although many local inhabitants do not see agriculture as a preferred employment option. The labourers who have been working on the farm for some time will all receive free housing and title to land in the development, and the inclusion of more affordable housing types could mean that more lower and middle income earners from the surrounding region may be able to acquire property in the development. Unfortunately the high infrastructural cost and exacting construction standards mean that the more affordable properties in the development are still too expensive for many people to afford. On the positive side, Crossways is not being planned as a gated community in order to ensure that the

general public is able to experience the area and to link it to the surrounding area - modern fibre-optic communications infrastructure is also being installed to provide the virtual linkages that are also becoming more and more vital to rural livelihoods.

According to the developer's socio-economic consultants, the construction phase of the development will result in short-term employment opportunities equal to 15 522 man-years, while the annual operational employment opportunities are forecasted as 1817 man-years. (Badenhorst, 2009, pp. 841) "Projections made by Urban-Econ show that once the development is complete, in addition to the farming operations, it will provide 2583 permanent jobs. A further 11 860 temporary job opportunities will be provided during the eight years it takes to complete the development. The nature of detailed designs will be labour intensive and will make use of the harvested invasive species (Bluegums and Black Wattle) and natural sandstone found in the area." (Richards, 2010, pp. 35)

Figure 30: Anticipated employment opportunities on Crossways Farm Village. (CMAI archives, 2009)

5.4 Power, planning, credibility and teamwork

Crossways Farm Village can be seen as a megaproject due to its sheer size, complexity and range of uses. Generally, however, megaprojects have their fair share of problems, particularly social exclusion (especially of the poor and the informal sector), inequality and the continuation of social segregation. The proliferation of megaprojects can result in regions becoming more fragmented, instead of creating new mixed-use and mixed-income zones where employment opportunities are in the same locality as housing opportunities. There generally seems to be very little community participation and the planning process is sometimes marred by power struggles within the political and government spheres (not discounting the power relations between planners, officials, consultants and clients or stakeholders).

Utopia can easily become dystopia and the power employed by the public or private sector to control environments could potentially erase local identity and involvement, and Jones and Moreno-Carranco (2007, pp. 11) show "…glimpses that spontaneous, diverse, encounters take place in the megaprojects that challenge or subvert their designed use…" The fragile power networks of the disadvantaged can actually become stronger than the power of officials and they exhibit informal improvisation on the fringes of these megaprojects to create their own livelihoods and social meaning. "The megaprojects are cut across with small interjections of everyday life beyond the intention of administrators or architects." (Jones & Moreno-Carranco, 2007, pp. 11) Coetzee and Oranje (2006, pp. 5) call this micro-political resistance to power and it can take the form of struggles against domination, exploitation and subjection.

The CRDP's approach to sustainable rural development does not deal primarily with spatial planning, although it mentions spatial planners as key role players in achieving its objectives. The challenges mentioned above make planners' jobs that much more difficult and being neutral or objective is not enough. Coetzee and

Oranje (2006, pp. 3) mention five possible ways for ensuring ethical behaviour by planners: Being aware of preference and prejudice, being cynical and challenging decisions, being open to evidence for or against the professional team's viewpoint, ensuring that a holistic view is taken of the process and searching for supporting evidence of the proposed plan. Findings should be "triangulated" by using various research methodologies and different types of evidence; the prominent role players and stakeholders should also be approached for input and feedback, which has to be taken into account.

The professional team has a responsibility and accountability to the disadvantaged communities and they have to take care to place communicative action, the building of social capital, skills building and inclusivity high on the agenda of any planning process. An inclusive stakeholder participation process would be one of the only ways for a planner to balance his/her responsibility and accountability to their employer, the poor and the environment. If a planner assumes the role of facilitator rather than wielding power in a top-down process (although facilitation also implies a certain amount of power), rationality may be able to prevail over power. Innovation, creativity and good communication skills can add great value to a process. Marks, R. and Bezzoli, M. (2000, pp. 16) argue that planners should "…develop more critical forms of practice, at the professional as well as the political level, which questions and resists the exploitation of the urban environment and seeks a more progressive and meaningful vision for the city".

It is quite clear that any megaproject is an extremely complex issue that is intricately tied to its context, although it usually ignores this in favour of global trends. Jones and Moreno-Carranco (2007: 1) describe this trend as "…megaprojects that seem to offer diluted representations of national and regional identities". Good intentions can sometimes have unintended negative consequences, especially when well-meaning officials or consultants decide to deliver a masterplanned project without local knowledge and local involvement. It would seem that by involving the local stakeholders a better balance can be achieved, which will result in more inclusive and representative human settlements. As mentioned by Machethe (2007, pp. 17),

the government and private sector should work together to promote rural development and eradicate rural poverty.

Figure 31: “Therefore, the state and private sector should become ‘partners in rural development’ in South Africa.” (Machethe, 2007: 20): The Minister of Rural Development and Land Reform Mr. Gugile Nkwinti and Dr. Chris Mulder at the opening ceremony of Crossways Farm Village on 19 November 2010. (CMAI Archives, 2010)

5.5 Outcomes to date

All of the strategies of the New Urbanism and New Ruralism frameworks that have been identified in this study as suitable for local conditions seem to be included in the current development plan for Crossways Farm Village. The model should be fairly easy to replicate in other areas of the country given the right site and context, although it may be difficult to implement it in the former homeland areas since one needs high value property sales to subsidise the infrastructure creation, community upliftment and the upgrading of the agricultural infrastructure. Mulder (2011) lists some criteria that are necessary for successful implementation of the Crossways model elsewhere:

- The site must have scenic qualities to encourage potential homeowners to purchase stands.
- It must be close to an existing rural village that can benefit from the development.
- The site should be close to where a large number of people would want to live or go on vacation.
- There should be schools nearby, good access and the capacity to accommodate and provide bulk services on site.
- Services not dealt with on-site should be purchased in bulk and distributed internally by a Homeowners Association.
- The site should have good agricultural properties.
- The price of the land should be established at agriculture value and the existing owner should preferably stay involved in the development.
- The system of equal distribution of equity and ownership in the farming operations should be implemented.
- The concept can work for dairy, fruit, wine, cattle and game.

The Crossways Farm Village development was approved by the authorities in 2010 and it was formally launched in November of the same year. The civil works are almost under way and construction of the first homes is expected to commence early in 2012, while the farming activities continue as normal. Mulder (2011) proclaims that agriculture is the new golf and that golf course developments are not economically or ecologically feasible any more: “Instead of fairways, Crossways Farm Village will have chemical-free grazing pastures. The club members will be 500 Holstein cows and the clubhouse will be a state-of the-art milking parlour.”

While there are some elements of tenure reform present in the current project proposal, there may also be some opportunities for redistribution if the government is willing to invest. The possibility exists that this may deter some potential buyers, but without at least some elements of land reform the project will not be sustainable in the long term.

The development should contribute to biodiversity, although some elements of the Urban Biosphere concept could potentially be used to mitigate the edge effects between the developable areas and the natural areas that have a fairly irregular shape due to the natural ravines that cut through the property. More emphasis should also be placed on organic farming practices in order to improve biodiversity and to enhance the ecosystem services on-site.

5.6 Conclusion

From all the development documentation, it would appear that there are a lot of positive elements to the proposal and that a wide range of suitable strategies have been taken into account in the planning to date, although there is still opportunity for further improvement. Now time will tell if the implementation stages adhere to the rigorous guidelines and the ambitious goals set by the development company. Besides obtaining the necessary funding without omitting any of the key elements, all future homeowners, farm managers, labourers and employees will have to embrace the underlying concepts and aims to ensure the long-term success of this megaproject.

Figure 32: Crossways Farm Village, overall view. (CMAI archives, 2010)

Chapter 6: Critical assessment and conclusion

All of the abovementioned models are based on the premise that spatial form and planning can contribute to the betterment of society. This is especially evident in the gospel of the New Urbanism framework where a return to traditional communities and values are viewed as the direct result of New Urbanist planning – this spatial determinism has been a key element of many models in the past, but it is especially evident in this movement. “The connection between spatial form and social process is here made through a relation between architectural design and a certain ideology of community. The New Urbanism assembles much of its rhetorical and political power through a nostalgic appeal to “community” as a panacea for our social and economic as well as our urban ills.” (Harvey, 1997, pp. 2)

Gordon (1998, pp. 4) refers to this spatial determinism as ‘communitarianism’ and states: “Although the New Urbanists are regarded as very conservative, reactionary, and even stodgy, from an architectural point of view, they take a very old architectural tradition, that design affects social behaviour, and radicalise it to the extent that they argue that incorporating specific design elements not only in buildings but in street layouts and neighbourhood patterns can generate a communitarian spirit and dramatically increase social interaction. Although there are precedents for this view (in the writings of Jane Jacobs [1992] for example), and most people would accept that our behaviour is sensitive to, and affected by, the surrounding physical environment, the New Urbanists take the argument to extremes.” He goes on to say that: “A more fundamental problem is that many New Urbanist projects are so influenced by the nostalgic longing for the archtypical small town of the past that they fall into the trap of believing that recreating its physical structure (at least to some degree) can simultaneously recreate its social and civic behaviour.” Ford (1999, pp. 252) writes that “…neotraditional urbanism is based on a kind of architectural determinism that has long been discredited. The ‘If you build it, they will socialise’ idea that advocates of front porches and narrow streets desire cannot be supported by existing evidence.”

"A more proper antidote to the underlying spatial determinism of both modernism and the new urbanism is not to abandon all talk of the city (or even of the possibility of utopia) as a whole, but to understand urbanisation as a group of fluid processes in a dialectical relation to the spatial forms to which they give rise and which in turn contain them. A utopianism of process looks very different from a utopianism of spatial form. The problem is then to enlist in the struggle to advance a more socially just, politically emancipatory, and ecologically sane mix of spatio-temporal production processes rather than to acquiesce to those imposed by uncontrolled capital accumulation, backed by class privilege and gross inequalities of political-economic power." (Harvey, 1997, pp. 3)

The emphasis on the process is an important one, and one that is quite often lacking in many New Urbanist and New Ruralist developments. Proper public participation (more inclusive and intensive than a typical charette) and collaborative partnerships are both key issues that need to be integrated into the model. The inclusion of the community in the process, together with the resources and the developed spaces may help to address injustices in both the spatial and the social realm. "In the broadest sense, spatial (in)justice refers to an intentional and focused emphasis on the spatial or geographical aspects of justice and injustice. As a starting point, this involves the fair and equitable distribution in space of socially valued resources and the opportunities to use them." (Soja 2008, pp.1) Marcuse (2008, pp. 5) argues that the two primary forms of spatial injustice are the involuntary confinement or segregation of a specific group to a specific area, and the unequal distribution of resources like employment, wealth, political power and social status. He also mentions several viewpoints that are either in favour of the notion that social justice may lead to spatial justice, or alternatively that social justice also has certain spatial aspects that need to be addressed, and he mentions the view that the achievement of the just city is the ultimate goal of spatial planning. According to Patel (2010, pp. 12): "The question of spatial justice is critical in addressing structural unemployment and inequality in South Africa. The move towards prioritising rural development is important in this regard."

New Urbanism projects tend to be economically strong with high property prices, sufficient amounts of money for amenities and sufficient profit for the developer, but more attention needs to be given to the social and ecological aspects of the model. The use of ecological design principles, biodiversity and resource efficiency are just some of the principles that have to be added to the New Urbanist toolbox; the New Urbanism framework generally does not place much emphasis on resource consumption other than the principle of reduced vehicular transport. Combined with a strategy like the urban biosphere concept, more emphasis may be placed on the preservation of natural environments and as Frost (2001, pp. 4) states: "Perhaps then we will see towns and cities at ease with themselves and their hinterlands; creating high-quality environments that contribute to a high quality of life and attract high-value businesses."

Jabareen (2006, pp. 38) lists several design tools that are regularly used to create more sustainable urban forms (urban in this case being interpreted as human settlements that include rural towns): Compactness, sustainable transport, higher densities, passive solar design and greening. These tools correspond to some of the principles of the New Urbanism and the New Ruralism frameworks. In addition to these tools, Jabareen also identifies four types of sustainable urban forms: Neotraditional development, urban containment, the compact city and the eco-city; so he is clearly familiar with the New Urbanism framework, although he admits that there seems to be no agreement as to what is the most desirable urban form as far as sustainability is concerned. As mentioned previously, he also cites sources that call for a New Urbanist approach that is more concerned with the ecology. As far as the seven tools are concerned, compactness relates mainly to the New Urbanism where densification or intensification are used in existing urban areas, while sustainable transport is mainly about reducing the need for transport; this ties in to the concept of mixed land use and the diversity of activity, although diversity goes one step further than mixed use by addressing issues like the variation of building types, age groups, income groups, cultures, household sizes and building densities. Increased density in turn relates to the reduction in energy consumption together with the use of passive solar design. Greening the city means bringing nature into the urban form;

this contributes to the promotion of biodiversity, the improved treatment of stormwater, reduced pollution, moderating the microclimate in urban areas, improved quality of life, an improved visual environment, health benefits, educational benefits and the fostering of civic pride.

While not much mention is made of ecological sustainability in their literature, the New Urbanism concept and Smart Code do make provision for agriculture in the transect mapping by allowing for different types of foodstuff production in different zones. However, these agricultural transects are not regularly applied in practice.

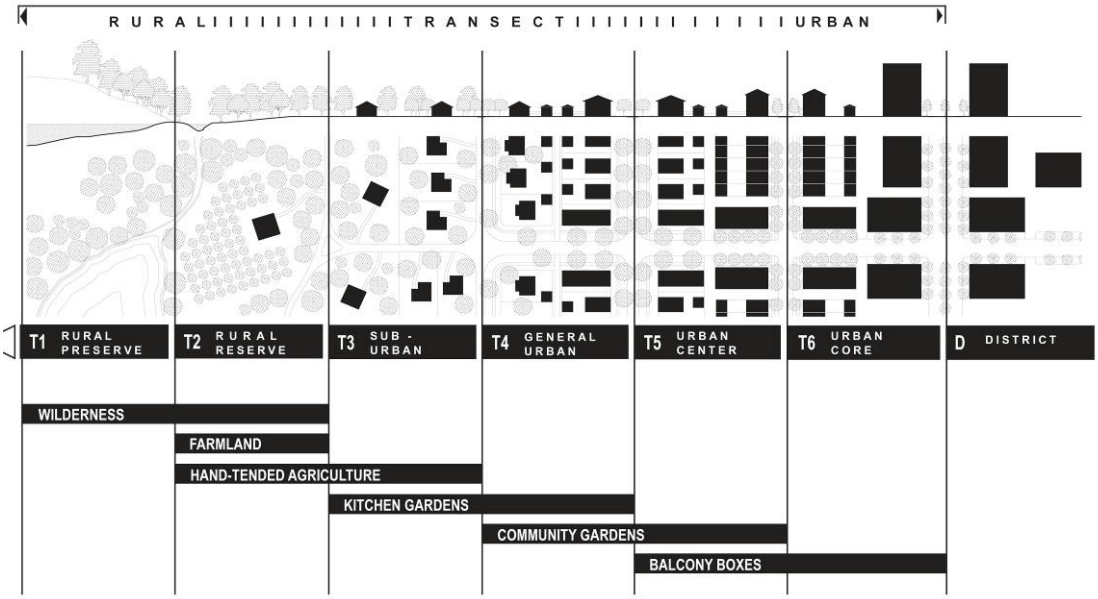


Figure 33: Foodstuff production related to the transects.
(Duany Plater-Zyberk & Company, 2002, pp. E1.1)

The opposite is true of most sustainable rural development models where a lot of emphasis is placed on the ecology and some emphasis on social sustainability, but very little is mentioned about spatial planning or economic development that is not purely concerned with agriculture or tourism. While there is room for the abovementioned criticisms, the key aspect here is that, individually, the different models don't address all the issues that may help them to become more sustainable spatial planning strategies. A combination of strategies from all the different models, tailored together and adapted to suit to local conditions may address many of the

individual shortcomings; this could result in improved models and processes where the whole becomes bigger than the sum of its parts.

"The ideal sustainable urban form according to the design concepts of sustainable urban form is that which has a high density and adequate diversity, compact with mixed land uses, and its design is based on sustainable transportation, greening and passive solar energy. Ultimately, sustainable urban forms aim to achieve different objectives. The most prominent among them are decreased energy use, reduced waste and pollution, reduced automobile use, preservation of open space and sensitive ecosystems, and liveable and community-oriented human environments." (Jabareen, 2006, pp. 48)

The Integrated Sustainable Rural Development Strategy (ISRDS) warned against the development of "showcase fever" and projects that are unsustainable or that are not replicable. Del Grande (2006, pp. 31) also mentions that a number of land-use "products" or "trends" have been developed over the past few years that have been hailed as an answer to poverty and land-use challenges. "Rather than imposing models based on urban middle class assumptions about what people need to develop, flexible models should be developed in consultation with the proposed affected group, to establish how they currently live and survive. This would begin to ensure that the models are appropriate to the realities of peoples' livelihoods, and strengthen their strategies rather than change them altogether." (Del Grande, 2006, pp. 33) Everyone and the government in particular, is searching for an appropriate rural development model that will show their commitment to sustainable rural development. The danger is that the wrong models are developed, which may diminish the already sceptical rural communities that have heard many promises, but are consistently left on the developmental fringe.

From a spatial development perspective, it is evident from the various case studies that there is space for the positive contribution to environmental, economic and social development in rural areas through the use of specific tools and it would seem that the New Urbanism and New Ruralism frameworks with the addition of

sustainable rural development strategies as mentioned, may be a very good starting point. It is clear that only through a combination of all the abovementioned models and probably a number of additional tools and policies, will rural development in South Africa be adequately and sustainably addressed. While the New Urbanism and particularly the New Ruralism framework may romanticise rural living within a specific spatial model, the real challenge will be to facilitate sustainable rural livelihoods both for unemployed and impoverished rural populations and for relocating city-dwellers who are drawn to the supposedly idyllic rural lifestyle (and who are supposed to provide the economic injection that can facilitate rural growth).

Spatial planning is a vital tool for rural development and the New Urbanism and New Ruralism frameworks seem to offer a number of tools that could be used to make it more sustainable, although spatial planning is not enough on its own. It can only be applied within a wider institutional, social and economic sphere, although if these different spheres are integrated into a model that turns out to be fairly successful and replicable, it may galvanise policy and investment to repeat and improve on it in other rural areas. This study has highlighted a number of potential spatial planning tools or models that could be used to promote sustainable rural development in South Africa, but they need to be implemented and tested in practice in order to really determine the outcome of their potential impact. The critical analysis of their physical performance may lead to further study or improvement and replication in practice to hopefully lead to some advantage to the rural populations and rural contexts that need it most.

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Annexure

1. Crossways Farm Village Site Development Plan